

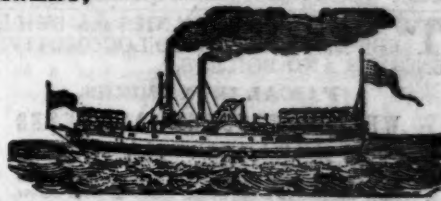
AMERICAN RAILROAD JOURNAL, AND GENERAL ADVERTISER

FOR RAILROADS, CANALS, STEAMBOATS, MACHINERY,

AND MINES.



ESTABLISHED 1831.



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THE AMERICAN RAILROAD JOURNAL is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

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W. R. CASEY, CIVIL ENGINEER, NO. 23 Chambers street, New York, will make surveys, estimates of cost and reports for railways, canals, roads, docks, wharves, dams and bridges of every description, with plans and specifications. He will also act as agent for the sale or purchase of machinery, and of patent rights for improvements relating to public works.

KITE'S PATENT SAFETY BEAM.

MESSRS. EDITORS.—As your Journal is devoted to the benefit of the public in general I feel desirous to communicate to you for publication the following circumstance of no inconsiderable importance, which occurred some few days since on the Philadelphia, Wilmington and Baltimore railroad.

On the passage of the evening train of cars from Philadelphia to this city, an axle of our large 8 wheeled passenger car was broken, but from the particular plan of the construction, the accident was entirely unknown to any of the passengers, or, in fact, to the conductor himself, until the train, (as was supposed from some circumstances attending the case,) had passed several miles in advance of the place where the accident occurred, whereas had the car been constructed on the common plan the same kind of accident would unavoidably have much injured it, perhaps thrown the whole train off the track, and seriously injured, if not killed many of the passengers.

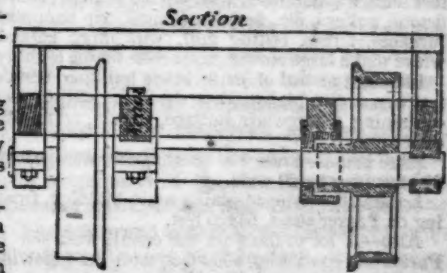
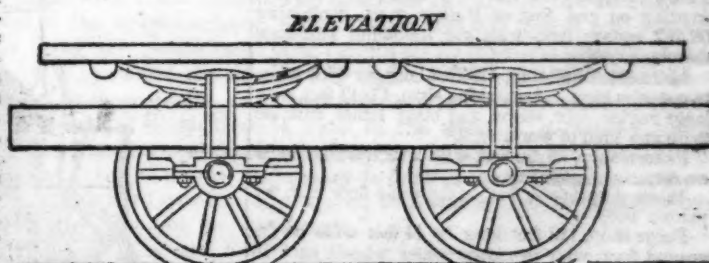
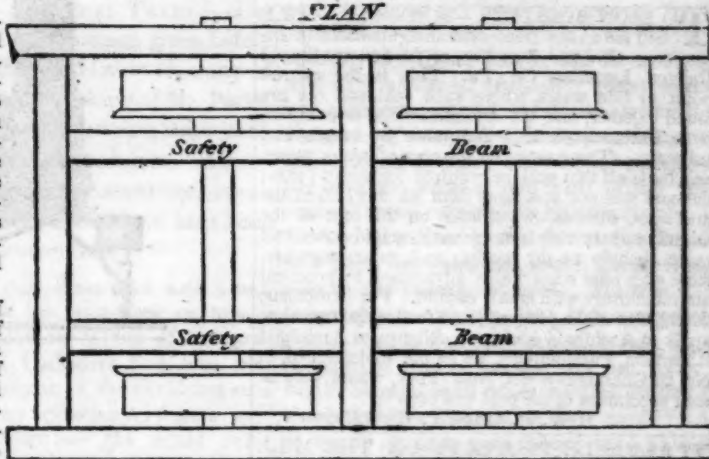
Wilmington, Del., Sept. 28, 1840.

The undersigned takes pleasure in attesting to the value of Mr. Joseph S. Kite's invention of the Safety Beam Axle and Hub for railroad cars. They have for some time been applied to passenger cars on this road, and experience has tested that they fully accomplish the object intended. Several instances of the fracture of axles have occurred, and in such the cars have uniformly run the whole distance with entire safety. Had not this invention been used, serious accidents must have occurred.

In short, we consider Mr. Kite's invention as completely successful in securing the safety of property and lives in railroad travelling, and should be used on all railroads in the country.

JOHN FRAZER, Agent,
GEORGE CRAIG, Superintendent,
A model of the above improvement is to be seen at the New Jersey railroad and transportation office, No. 1 Hanover st., N. York.

JAMES ELLIOTT, Sup. Motive Power,
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TO IRON MANUFACTURERS. THE SUBscribers, as Agents of Mr. George Crane, of Wales, having obtained a patent in the United States for his process of smelting Iron Ore with Anthracite coal, and holding an assignment of the patent obtained by the late Rev. F. W. Geissenhainer, are prepared to grant licenses for the manufacture of Iron according to Mr. Crane's principle.

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Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
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TO IRON MASTERS.—FOR SALE.—MILL SITES in the immediate neighborhood of *Bituminous Coal* and *Iron Ore*, of the first quality, at Ralston, Lycoming Co., Pa. This is the nearest point to tide water where such coal and ore are found together, and the communication is complete with Philadelphia and Baltimore by canals and railways. The interest on the cost of water power and lot is all that will be required for many years; the coal will not cost more than \$1 to \$1.25 at the mill sites, without any trouble on the part of the manufacturer; rich iron ore may be laid down still more cheaply at the works; and, taken together, these sites offer remarkable advantages to practical manufacturers with small capital. For pamphlets, descriptive of the property, and further information, apply to Archibald McIntyre, Albany, to Archibald Robertson, Philadelphia, or to the undersigned, at No. 23 Chambers street, New York, where may be seen specimens of the coal and ore.

W. R. CASEY, *Civil Engineer*,

VALUABLE PROPERTY ON THE MILL Dam For Sale. A lot of land on Gravelly Point, so called, on the Mill Dam, in Roxbury, fronting on and east of Parker street, containing 68,497 square feet, with the following buildings thereon standing.

Main brick building, 120 feet long, by 46 ft wide, two stories high. A machine shop, 47x43 feet, with large engine, face, screw, and other lathes, suitable to do any kind of work.

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Forge shop, 118 feet long by 44 feet wide on the ground floor, with two large water wheels, each 16 feet long, 9 ft diameter, with all the gearing, shafts, drums, pulleys, &c., large and small trip hammers, furnaces, forges, rolling mill, with large balance wheel and a large blowing apparatus for the foundry.

Foundry, at end of main brick building, 60x45½ feet two stories high, with a shed part 45½x20 feet, containing a large air furnace, cupola, crane and corn oven.

Store house—a range of buildings for storage, etc., 200 feet long by 20 wide.

Locomotive shop, adjoining main building, fronting on Parker street, 54x25 feet.

Also—A lot of land on the canal, west side of Parker st., containing 6000 feet, with the following buildings thereon standing:

Boiler house 50 feet long by 30 feet wide, two stories.

Blacksmith shop, 49 feet long by 20 feet wide.

For terms, apply to HENRY ANDREWS, 48 State st., or to CURTIS, LEAVENS & CO., 106 State st., Boston, or to A. & G. RALSTON & Co., Philadelphia.

ja45

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The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention.

ANDREW C. GRAY,
ja45 President of the Newcastle Manuf. Co.

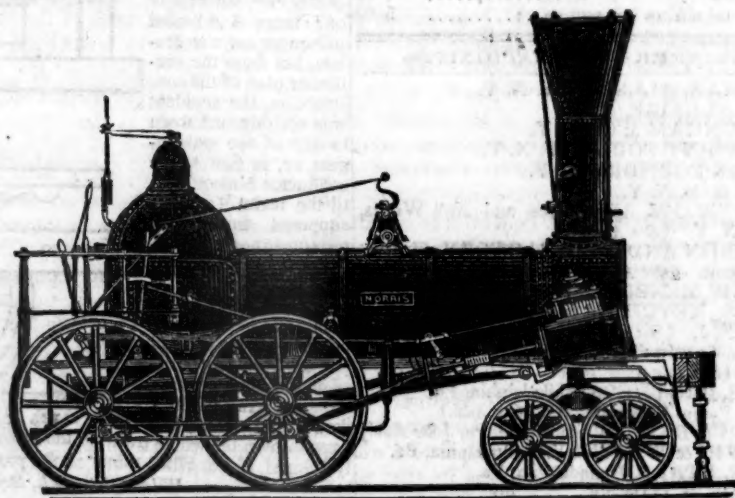
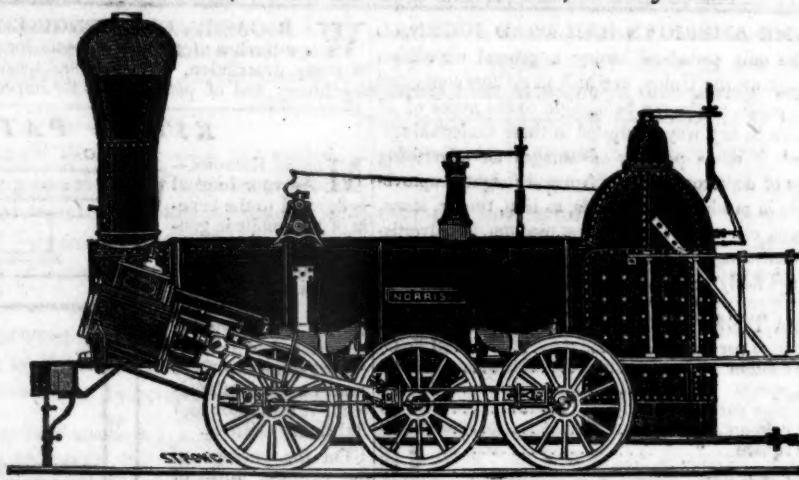
CUSHMAN'S COMPOUND IRON RAILS etc. The Subscriber having made important improvements in the construction of rails, mode n guarding against accidents from insecure joints, etc. —respectfully offers to dispose of Company, State Rights, etc., under the privileges of letters patent to Railroad Companies, Iron Founders, and others interested in the works to which the same relate. Companies reconstructing their tracks now have an opportunity of improving their roads on terms very advantageous to the varied interests connected with their construction and operation; roads having in use flat bar rails are particularly interested, as such are permanently available by the plan.

W. Mc. C. CUSHMAN, *Civil Engineer*,
Albany, N. Y.

Mr. C. also announces that Railroads, and other works pertaining to the profession, may be constructed under his advice or personal supervision. Applications must be post paid.

NORRIS' LOCOMOTIVE WORKS

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MANUFACTURE their Patent 6 Wheel Combined and 8 Wheel Locomotives of the following descriptions, viz:

Class	1,	15 inches Diameter of Cylinder,	× 20 inches Stroke.
"	2,	14	" " " × 24 " "
"	3,	14½	" " " × 20 " "
"	4,	12½	" " " × 20 " "
"	5,	11½	" " " × 20 " "
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With Wheels of any dimensions, with their Patent Arrangement for Variable Expansion. Castings of all kinds made to order: and they call attention to their Chilled Wheels, for the Trucks of Locomotives, Tenders and Cars.

NORRIS, BROTHERS.

OSWEGO AND SYRACUSE RAILROAD.

If the editors of the Syracuse papers took half the interest in the extension and success of railroads in this State, that they do in political matters, the *Railroad Journal* would not have been dependent upon a stray number of the "Standard," and that sent by an attentive friend of the cause, for the following notice of a work which, when completed, will contribute so largely to the success of the central city of the State.

We desire to make the Journal useful to the cause; but to do so we must rely upon the newspaper press of the country for the details of what is passing in their respective sections. Possibly the *Railroad Journal* may not be as useful to the political newspapers of the day as they are to it—hence it may not be worth an exchange. There is some satisfaction, however, in the reflection that it is esteemed by many of the ablest and best conducted papers of the country, worth at least as much as an equal number of square inches of politics and advertisements.

We shall not hereafter solicit an exchange with those who have declined—or omitted—to send their's in return, when ours has been sent regularly to them for months past.

"We hope," says a writer in the Onondaga Standard, of June 4th, "soon to see the company which was revived and extended by the last legislature to construct this road, organized, and in the prosecution of the important enterprise for which the charter was granted. In looking over the various proposed routes for railroads, we see none in this State which, in importance of business, and in certainty of income, equal this route. It is to connect by a railroad of 35 miles the great and increasing business of lake Ontario with the central line of railway at this place. It is no common-place remark to say that the route is most favorable for construction. Every one who has travelled to Oswego will readily perceive that the face of the country is very level and uniform, and that a railroad may be made with the most moderate inclinations.

"A railway is proposed in Canada from Hamilton to Windsor, opposite Detroit, and from the earnest tone of feeling in that region there is little doubt but it will be completed in a very brief period. When that shall be done, and a railway open from this to Oswego, it will form the most direct, expeditious and comfortable route from Boston to Chicago. We say from Boston, because our city of New York seems to overlook this line of communication, and to be turning its energies in another direction.

"The capital of the Oswego and Syracuse railroad company is \$350,000, which is believed to be ample to make the road. The commissioners are Alvin Bronson, Da-

vid P. Brewster, Luther Wright, Sylvester Doolittle and Henry Fitzhugh, of Oswego; George F. Falley, of Fulton; Philip Hart, Jr., of Granby; Otis Bigelow, of Baldwinsville, and Ashbel Kellogg, John Wilkinson, B. Davis Noxon, Thomas McCarthy and James R. Lawrence, of this town. We understand that they will meet here to-day, for the purpose of making preliminary arrangements to opening the books of subscription.

"The capital stock is divided into shares of \$50 each, and one dollar per share is required to be paid at the time of subscribing.

"We regard this as an important project for the central line of railway from this to Albany, and as particularly interesting to our town. It will bring in a large new trade. It will help to make us more central by the greater facility that it will afford for the northern counties to reach this point. Let it be taken up and constructed with the energy with which such works are prosecuted in Massachusetts, and like favorable results will ensue."

RAILWAYS AND THE COAL TRADE.—The following report of the evidence given before the committee will be of interest to many of our readers. We know nothing of Mr. Pease, and therefore leave our readers to draw their own conclusions upon his opinions. It is evident, however, that his opinions are considered worth having, or he would not have been brought before the committee.

LONDON AND YORK RAILWAY AND COAL TRADE.—Amongst the witnesses examined before the committee, in favour of the projected London and Yorkshire line, was Mr. Pease, deputy-chairman of the Stockton and Darlington Railway company, whose evidence was as follows:—"He could raise 2,000 tons of coal per diem, and make about 2,000 tons of coke in the week; but little of either was consumed in the neighbourhood, the greater portion being sent southwards, and thence to all parts of the world, the coke proceeding to a greater distance south, as it was more adapted to the use of locomotives. He had considered the London and York project with great attention, and it was his firm belief that, if it were carried into effect, it would work an entire revolution in the whole coal trade throughout England, both as to the manner of the conveyance and the cost of the article itself. He believed that the charge of $\frac{1}{4}$ d. a ton per mile would be amply remunerative, except in the case of very short distances, and of separate managements which could not be brought to unite. The witness then stated several instances in which he himself had experienced the evil results arising from rivalry and jealousy, as well as inherent obstacles to which through traffic was exposed by separate companies, as each thought that they were entitled to fix the local charge of conveyance on their own line. There were besides other great practical objections to carrying coal by different companies, which were so insurmountable that, although there was, he believed, every disposition to

accommodate him on the lines in question, his waggons were often detained in passing from Durham to Gloucester for ten or eleven days, when they should have gone in one day. He believed that the aggregate traffic in coal would give the company 5 per cent. upon a capital of 25,000*l.* per mile for the whole line. He should be glad to sell his coke at 6*s.* per ton at the pit's mouth, and transmitting it at the above mentioned rate at a mileage, taken as the crow flies, he could deliver it in London for 21*s.* per ton, whereas it now cost from 28*s.* to 32*s.* With respect to coal, he would sell it for the same sum at the pit's mouth, and could deliver it at King's Cross, paying the city dues, and defraying the expense of carriage within a circle of six miles, for 1*l.* 4*s.* 7½*d.* per ton. The formation of the railway would save an enormous amount of coal which was now destroyed at the pit's mouth, that quantity so wasted in the year 1833-34 being 1,500,000 tons. Small coal might, if this line passed, be carried to London, and sold for 8*d.* or 9*d.* per cwt. He had calculated the amount of coal consumed per head per annum by the populations of York, Durham, and Northumberland, and found that it was from 1½ to 2 tons and upwards, including men, women, and children; whilst in London, with all the demand of steamers, factories, mills, and manufactories, there was only about one ton per head per annum, one third of the whole amount being required for manufactories, &c. He had examined gradients on the London and York line, and had found them favourable to the passage of coal. He was so far favourable to the line, that, if the proprietors guaranteed to fix their maximum rate for the carriage of coal at $\frac{1}{4}$ d. per ton per mile, he would engage with other parties, to pay the 5 per cent. per annum on their capital; and he would agree to give them from 250,000 to 300,000*l.* a year, for the use of their line. The Stockton and Darlington Railway conveyed about 2,000,000 tons of coal annually, and there were no practical difficulties found in that traffic. He had considered the various lines before the committee, solely with a view to the want of a railway running north and south, which it was absolutely necessary to have in the hands of a single company, or, as a coal owner, he should be overthrown."

EPSOM AND CROYDON ATMOSPHERIC RAILWAY.—The works on this line are proceeding with great activity, and cause much attention among persons who take an interest in this principle of propulsion. A number of labourers are employed in the necessary earthworks, laying the tubes, rails, &c., and in some parts of the line the works have assumed an important and forward appearance. The telegraph is completed for several miles; and, at the spot at Añnerley, where it will cross the South-Eastern line by an incline and viaduct, a large extent of piles have been driven for the foundations. Near the Dartmouth Arms Station a noble engine-house is being erected, intended to contain six enormous boilers, from the works of Messrs.

Maudslay and Field, each weighing fourteen tons, covered with an elegant iron roof, the chimney of which will be 120 feet high, and is of very unique design. The directors, in these operations, have shown a degree of activity not always witnessed in large undertakings and evince a very laudable desire to give effect to the opportunities placed within their reach, for testing, to its full extent, the capabilities of this enormous power, which Nature had placed at the command of man. The length of the line, its gradients, and its situation, so contiguous to the metropolis, render it most peculiarly adapted for a definitive trial of the pneumatic principle, as it progresses it excites much interest, and an early report is anxiously looked for by the scientific world, and the various parties interested.

INCREASE AND EXTENSION OF RAILWAYS.

We copy from the Mining Journal the following remarks on the extension of, and the changes which are likely to result from, railways. We entirely concur with the editor in his views in relation to the *safety* of such investments, when judiciously made; and also with those in relation to the equalizing the value of the agricultural products of the country—and the penalty for poverty! We desire, however, to be understood as holding fully to the belief, that the process of *levelling is upward*. Railroads tend to elevate, to extend and increase *knowledge* as well as business; and in our country especially, they will unite us more closely as a people, and bind us together as a common brotherhood, unless those demons, *indolence and ambition*, which produce a thirst for office—public station—power, and a desire to feed at the “public crib,” instead of enjoying a glorious independence, earned by honest industry—sap the foundations of the republic by fostering sectional prejudices, and thus plunge us into anarchy, bloodshed and ruin.

“The increase and speculation in railways is a question of considerable importance to the future welfare of the country. It is frequently asked what will be the end of all this? It is clear that the whole order of things is soon to be completely revolutionized, and the sooner we are prepared for the great change the better. We are now in a state of transition, and it is somewhat singular that, while we are in this position, we are not suffering more inconvenience than we now experience. All those not directly engaged in land or agricultural pursuits, must, of necessity, remove to the great termini of the empire; and, however much this may militate against our good old notions of English society, stern necessity commands it, and the village must be reduced to the lawyer, the doctor, the carpenter, and the smith. It is true that this may make very little difference to the real state of the country or the people, for we are migratory in our habits, and those most tied to home be-

come indifferent to it if they can do better elsewhere, and that place becomes home which treats us best, and best provides us with the comforts and luxuries of existence. It is also more natural that the land should only be provided with a sufficient number of inhabitants for its necessities, and the superabundant population are better employed in hordes, either for the sake of commerce or of manufacture. The hording together of one class of people also calls together other classes, which are dependant upon the business of those more numerous; and after the colossal schemes of railways, now proposed, are completed, there can be little doubt but that it will be attended with a greater portion of general prosperity; the land will not be encumbered with a useless population, and the towns will be so altered and re-constructed as to provide for them; and every kind of manufacture will be increased, and commerce extended; while from the improved facilities of transport of the raw material of the British Empire, it is to be expected that our manufactures will flourish, so as to exceed those of every other nation; that we shall grow into a healthy mart, and bid competition defiance; and that our fields will become more valuable, for it must be observed that an equipoise must take place in the value of vegetation produced in the immediate vicinity of the metropolis and the larger towns, and that of the western margin of Ireland. With respect to the safety and means of carrying these undertakings into effect, it is clear that the security is much better than that which has been usually the outlet of hoarded bullion, for it is the next thing to the green acres themselves, and if at first the per centage be small, it is only reasonable to suppose it will gradually increase, and that at last all lines selected with any degree of engineering skill and proper data must pay. We may here observe, *en passant*, that the engineers of the present day on most of the railways neither consult the interest of the companies they represent or the health of their passengers. It is a disgrace to England that the poorer classes are obliged to travel against cold boards, cooled outside to the temperature of an atmosphere rendered more frigid by the speed, and communicating rheumatism, and, perhaps, death, to the unfortunate being who has not money to pay for better accommodation. If the inside of these carriages were lined with the commonest flannel, it would be a mere act of humanity; but when we look at the manner the London vehicles are fitted for rich and poor, and the great, the immense, profits wrung from the sorrowing humbler classes, is it too much to ask these hard-hearted directors—who can only be assimilated to their own engines in feeling—whether they can look upon the sufferings of their poor fellow-creatures for the saving of a few shillings to each carriage, and after all, it is doubtful whether the increased traffic consequent upon such an alteration, would not more than pay the outlay; or whether the pleasure of doing a good action would not be more than the equivalent of loss in £. s. d.”

The Mining Journal says:—

“The most important and even astonishing feature in the share market is, the rise in price of the Great North of England shares; they having reached 255, occasioned, doubtless, by the conclusion of the contract for the purchase on Tuesday last of this line by Mr. Hudson, for the United Midlands, the York and North Midland, and the Newcastle and Darlington Companies. This important transaction has been effected by Mr. Hudson, as the representative of the above proprietaries, agreeing to pay the enormous sum of 250*l.* for every 100*l.* share—thus placing the shareholders in the enviable position of receiving a greater return for their investment than any other passenger railway yet constructed. How far the public will benefit by the arrangement, which gives Mr. Hudson, in his official position, almost unlimited power throughout the northern and a great portion of the western counties, remains to be seen; but, we cannot help thinking, that, however beneficial amalgamation may have been with lines whose positions rendered such arrangement absolutely necessary to insure anything like regularity in working, in this transaction, connected as it is with former ones, and placing as it does the convenience of the public, as well as the interest of the shareholders, in the hands of a few individuals, there is much danger, and we can only hope, that those parties in whose hands this gigantic power is placed will exercise it to the public advantage. The railway share market has remained exceedingly steady during the week, the leading shares obtaining advanced prices. London and Birmingham have advanced 9*l.* per share since our last; Great Westerns 13*l.*; and York and North Midlands 10*l.*; while London and Yorks, and Caledonians, are peculiarly heavy, at rather declining prices. The decision of the committee in favour of the Newcastle and Berwick line, to the exclusion of the Northumberland atmospheric, has given shares in the former company a lift of about 1*l.* per share. In the North British, and Norwich and Brandon, considerable confidence appears to be reposed, the former having advanced from 17 to 23, and the latter from 15 to 18½. The generality of the new schemes have experienced but slight variations, and foreign railway shares are, perhaps, on the whole, a shade lower. Towards the end of the week, the market has been well supported, more especially in the heavy lines, while prices have been secured in several of the newest projects, evidencing that a disposition still continues, on the part of the public, to embark in enterprises of this nature. The Staffordshire and Shropshire Junction shares left off with a disposition to advance, having been done at a premium. The Dublin and Kilkenny, and the Cork and Bandon railway companies have passed the ordeal of the committees, and these bills are ordered to be reported to the House, and the Waterford and Kilkenny bill is pronounced as proved, and the clauses are being considered—thus these three Irish lines may be pro-

nounced as safe, and it is hoped, that they will shortly open a wide field for the employment of the labouring population."

SELECTED RAILROAD, CANAL, AND MISCELLANEOUS ITEMS.

CANADA RAILROAD.—A meeting was held at Windsor, Canada, on the 15th inst., for the purpose of fixing upon the western terminus of the proposed road in Canada, from Toronto, or a point opposite Buffalo, to lake Huron. The meeting discussed the different routes proposed, and concluded upon Sandwich, (opposite Detroit,) as the western termination. The distance estimated is 210 miles.

At a meeting of the board of directors of the Little Miami railroad at Xenia, it was unanimously determined to continue the road to Springfield by the Yellow Springs. The distance will be 19 miles, being a mile and a half shorter than the Clifton route.

MADISON AND INDIANAPOLIS RAILROAD.—The president of the railroad has furnished the Madison Banner with the following abstract of business done on the road during the months of March, April and May last.

Passengers on the route inward—through 799, way 1041. Receipts from inward passengers, \$1976 96.

Inward freight—321 hhds. bacon, 25,377 lbs. bacon in bulk, 311 bbls. pork and lard, 340 kegs of lard, 4522 bbls. flour, 14,888 bushels of wheat, 7949 of corn, 513 fruit, 150 flaxseed, 29,907 lbs. furniture, etc., 22,407 lbs. tobacco, 52,163 lbs. hemp, 4285 lbs. feathers, 13,550 lbs. hides and leather, 100,922 lbs. unspecified freight, 308,820 feet sawn timber, 73 tons of hay, about 10 tons of other articles, and 140 cords of wood—for which the tolls charged amounted to \$3,542 25.

The through passengers outward, during the same period, numbered 956; but the full number of way passengers outward, as well as that of the way freight, can only be ascertained from the books at Columbus. The outward freight started from Madison, however consisting of dry goods, groceries, iron, and various articles, during the month of March, amounted to 281 tons 1300 lbs.—in April, 332 tons 200 lbs.—in May, 381 tons 900 lbs.—besides 200 tons railroad iron, and more than that amount of timber for the repair or construction of the road. The actual receipts from tolls amount to \$11,400, or \$3000 more than was received last year in the same months.

The average freight for customs has been 36 tons, passengers 50, and receipts \$146 per day.

The amount of bacon, pork, etc., is less than half that of last year; but most other articles have largely increased. The increased distance is 21-2 miles. The passenger car has for about a week gone five miles north of Columbus, and before the end of the month, the train will run to Edinburgh, on 11 miles of new road, making the whole distance 56 miles from Madison.

The grading and bridging of the thirty miles from Edinburgh to Indianapolis have been put under contract on favorable terms, and there can be scarcely a doubt but before two years the road will be completed the whole distance. This is good news for Central Indiana.

MAD RIVER RAILROAD.—A large number of laborers are at this time busily engaged in laying the timber from this place south upon the track of the above road. For a short distance it is now ready for the iron, and is rapidly progressing towards completion in other respects. It is expected a train of cars will run to Carey, 16 miles south from this place, at farthest by the 1st of August, and it is contemplated to complete

the road to Kenton, 40 miles south, by the 1st of November.—*Seneca Adv.*

BALTIMORE AND OHIO RAILWAY COMPANY.—The directors on Thursday declined to accept the resignation of the presidency, tendered by Hon. Louis McLane, but determined to appoint a president pro tempore. Samuel Jones, Esq., was elected to that office.

Bills have passed the New Hampshire legislature to incorporate the Great Falls and Conway railroad, the Portsmouth, New Market and Concord railroad, and the Portsmouth New Market and Exeter railroad.

A railroad from Worcester to Brattleboro' through Barre, is in contemplation.

CONNECTICUT RIVER ROUTE OF THE VERMONT CENTRAL RAILROAD.—Mr. Whitwell and his assistants have completed the survey, and partially laid out the route of the Central railroad, from the Cheshire bridge, opposite Charlestown, N. H. (where the Cheshire road may meet,) to the mouth of White river. The distance is 30 1-2 miles, and the grades are low and entirely favorable for the construction of a railroad.

HARTFORD AND NEW YORK RAILROAD.—At a convention of delegates from sundry towns on or near the line of the proposed railroad from Hartford to New York, via Plymouth and Danbury, a committee of seven was appointed to procure a survey of the route, and make arrangements for opening the books of subscription to stock, as follows: Jas. Goodwin, E. G. Howe, Wm. L. Cowles, R. H. Hotchkiss, G. W. Bartholomew, J. L. M. Scoville, Fred. S. Wildman.

Under the direction of the corporators of the Atlantic and St. Lawrence railroad company, Mr. Hall has recently made a farther exploration of routes for the road. This is the promised continuation of the reconnoissance made last fall. By that survey, one principal route was examined and found to be feasible. The recent undertaking has given a further view of the whole country between Portland and the Canadian frontier, and has indicated two or three other general lines, by which a railroad communication may be effected, under very favorable conditions.

The people of Cincinnati are rejoicing over the completion of the Miami canal, by which a regular and direct communication is established between Cincinnati and Toledo (at the head of Maumee bay) on lake Erie. The Miami canal extends from Cincinnati to Defiance, and is 178 miles in length. At Defiance it strikes the great work of Indiana, the Wabash and Erie canal, making the entire line of canal from Cincinnati to Toledo, on the lake, 265 miles.

The water in the Wabash and Erie canal is to be drawn off between Fort Wayne and Logansport, on the 10th of July, for the purpose of repairs. Navigation on that part of the canal will be suspended for a few weeks.

A NEW ENGINE.—One of the most strongly and beautifully constructed engines we ever saw, passed our office on Saturday. We were informed that it was built expressly for high speed for the Long Island railroad company, to make the trip between Brooklyn and Greenport, 97 miles, in 2 1-2 hours, with 300 passengers, including all stoppages. Weight of engine, in running order, 29,000 lbs. Cylinders 12 1-2 inches diameter, 20 inches stroke. Two driving wheels, 69 inches diameter; four guide wheels, 33 inches diameter; two relief wheels, 36 inches diameter. A handsome gallery extends around the engine, giving a foot path for the engineer to walk around with safety, and examine every part while the engine is in motion. Among

other new improvements, the Messrs. Norris have adopted on this engine, we notice a handsome brass reservoir which is secured to the side of the boiler, holding half a gallon of oil. From this reservoir, there are several copper pipes, leading to the different journals, and each supplied with a cock for letting down the oil upon the journals at pleasure. This arrangement gives the engineer an opportunity of oiling the engine while running at so rapid a rate.

Messrs. Norris are now constructing a second engine of the same description for the Long Island railroad company, which will be completed in a few days. They have now employed at their works, 320 workmen, completing orders which they now have on hand, for a number of locomotives for the governments of Austria, Hungary, and Baden, and with this compliment of men, they are now, and have been for the last two months, completing one locomotive each and every week.—*Phila. Post.*

ANOTHER NEW AND IMPORTANT RAILROAD INVENTION.—We are informed (says the editor of the United States Gazette,) by J. Hancock, Esq., patent agent in this city, that letters patent are now in progress for an original railroad safety guard that bids fair to be an important invention. Its object is to prevent locomotives, cars, &c., from running off the track, and in the event of an axle breaking, to save further damages. Desiderata to the whole community. The cost of applying it to railroads already in use will not exceed, we understand, the ordinary expenses of repairs, &c., but on the contrary, will serve to lessen them; besides having a tendency to keep animals off the track. The speed, it is said, can also be increased to 60 miles an hour, or more, with perfect safety to life and property.

PASSENGERS.—Those who are not acquainted with the facts, would be astonished to learn the great amount of travel up and down the Connecticut valley. Three lines of stages run regularly between Northampton and Springfield—two of them connecting with the railroad at Cabotville, and one at Springfield. There is also another line running through Amherst to Cabotville. On Friday last, the two lines from Cabotville to Northampton—which carry at low fare—brought up about fifty passengers. The next day they were similarly freighted, and it was estimated that the other two lines swelled the number of passengers to about 100. On Monday nearly the same number came up. On a line of such travel, can a doubt exist that a railroad will be good stock?—*Northampton Cour.*

TO DISCOVER THE PROPORTION OF SILVER CONTAINED IN COPPER ORE.—To a sample of one ounce add flux red tartar, 1 ladle; nitre, 1 do.; lime, 1-2 do.; borax, 1-2 do.; fluor spar, 1 do.; red lead, 1 do.; mix well with the ore and melt in a wrought iron crucible (if a stone one only can be obtained, add 1 ounce of iron,) about eight minutes, in a brisk heat, will be sufficient; for the last five minutes the assay should be incessantly stirred with an iron rod; pour the sample and cool it, break out the lump and test it in the usual way. *Note*—As soon as the assay begins to flow, the lead, by the power of affinity, will attract, or be attracted, by the silver, and it only requires the process of refining, or burning off the inferior metals, to ascertain the produce.—*Mining Journal.*

RAILROAD IRON.—THE MARYLAND AND NEW YORK IRON AND Coal Company are now prepared to make contracts for Rails of all kinds. Address the Subscriber, at Jennon's Run, Alleghany County, Maryland.

WILLIAM YOUNG,
President.

jj451m

ENGLISH RAILROAD SHARE-LIST.

NAME OF RAILWAY.	Miles opened.	Total sums, in pounds, authorized to be raised by shares.		Total sums, in pounds authorized to be raised by loan or mortgage.		Total sums, in pounds expended at dates of latest balance sheets.		Cost of working in pounds for six months as stated in latest balance sheets.		Total earnings, in pounds, for six months as stated in latest balance sheets.		Dividend at last meeting.				Paid on share.	Value of share.	NEW AND PROPOSED RAILWAYS.	Share Capital.		
		£	s. d.	£	s. d.	£	s. d.	£	s. d.	Per share.		Per cent. per annum.									
										£	s. d.	£	s. d.								
Arboath and Forfar.....	15	102,000		35,000		138,870						0	12	6	2	10	25	27	Aberdeen.....	1,600,000	
Birmingham and Gloucester.....	55	1,187,500		407,336		1,500,806		39,261		53,203		1	5	0	2	10	100	100	Barnsley Junction.....	200,000	
Brandling Junction.....	23	161,700		365,470		481,452									4	10	0	50	54	Belfast and Ballymena.....	385,000
Bristol and Gloucester.....	37½	400,000		211,000											nihil.			30	36	Blackburn and Accrington.....	400,000
Chester and Birkenhead.....	14½	750,000		143,170		518,989		5,856		13,148		0	8	6	1	14	0	50	32	Birk. and Ches. Junction...	1,000,000
Dublin and Drogheda.....	31	450,000		150,000		500,869									nihil.			55	72	Bolt, Wigan and Liverpool...	800,000
Dublin and Kingston.....	6	200,000		152,200		359,000						6	0	0	6	0	0	100	166	Caledonian.....	1,800,000
Dundee and Arbroath.....	16½	100,000		49,445		153,416		2,989		6,993		1	5	0	5	0	0	25	29	Cambridge and Lincoln.....	1,250,000
Durham and Sunderland.....	18½	169,350		124,055		270,392		9,889		17,702					nihil.			34	29	Chatham and Portsmouth.....	5,000,000
East County and North and East.....	86½	4,443,200		1,341,155		3,931,905		47,385		118,726		1	6	6				45	57	Chester and Wrexham....	120,000
Edinburg and Glasgow.....	46	1,125,000		375,000		1,649,523		29,429		55,866		1	2	6	4	10	0	50	57	Churnet valley.....	1,800,000
Glasgow, Paisley and Ayr.....	51	937,500				1,066,951		12,446		36,736		1	2	6	4	10	0	50	60	Direct Northern to York...	4,000,000
Glasgow, Paisley and Greenock.....	22½	650,000		216,666		787,884		11,572		23,177		0	5	0	2	0	0	25	12	Dublin and Belfast.....	950,000
Grand Junction.....	104	2,478,712				2,453,169		84,309		195,080		5	0	0	10	0	0	100	210	Dundee and Perth.....	250,000
Great North of England.....	45	969,000		581,017		1,262,518		12,201		36,189		1	12	6	3	5	0	100	119	Edinburg and Northern.....	800,000
Great Western.....	121½	4,650,000		3,679,343		7,272,539		132,235		369,904		3	10	0	7	0	0	75	138	Ely and Bedford.....	270,000
Hartlepool.....	15½	438,000		155,540		719,205									8	0	0	100	...	Glasgow, Dum. & Carlisle.	1,300,000
Leicester and Swannington.....	16½	140,000				140,000		2,207		6,317		1	5	0	5	0	0	50	...	Gt. South and West Ext....	1,200,000
Liverpool and Manchester.....	32	1,209,000		497,750		1,739,835		57,239		117,559		5	0	0	10	0	0	100	203	Gt. Grimsby and Sheffield.	600,000
Llanelli.....	27	200,000		44,000		221,624						1	0	0	2	0	0	87	...	Gt. Grimsby and Sheffield.	600,000
London and Birmingham.....	112½	6,874,976		1,928,845		6,393,468		92,823		405,768					10	0	0	100	218	Harwich and E. coun. Jun.	160,000
London and Blackwall.....	3½	804,000		266,000		1,315,640		15,978		23,870								16	6	Huddersfield & M. rl. & cl.	600,000
London and Brighton.....	56	1,793,800		998,350		2,630,451		29,372		84,880		0	12	0	2	8	0	50	47	Kendal and Windermere...	125,000
London and Croyden.....	8½	550,000		229,000		761,885		7,583		10,545		0	5	0	2	10	0	14	17	Leeds and Dewsbury.....	400,000
London and Greenwich.....	3½	759,383		233,300		1,040,930		15,193		28,933					nihil.			13	10	Leeds and Thirsk.....	800,000
London and South Western.....	92½	2,222,100		630,100		2,596,291		68,457		150,469		1	12	6	10	0	41	73	...	Liv. Ormskirk and Preston	600,000
Manchester and Birmingham.....	31	2,100,000		690,586		1,923,699		15,397		58,162		1	0	6	5	0	0	40	48	London and Portsmouth...	1,750,000
Manchester and Bolton.....	10	778,100		197,730		773,743		8,585		21,140		2	2	0	4	10	0	93	110	London and York.....	5,000,000
Manchester and Leeds and Hull.....	81	2,937,500		1,943,932		3,921,593		46,653		156,761		7	10	10	60	88		60	88	Londonderry & Enniskillen	500,000
Midland railway.....	178½	5,158,900		1,719,630		6,279,056		76,983		281,898								100	96	Lynn and Ely.....	200,000
Newcastle and Carlisle.....	61	878,240		188,563		1,135,069		26,499		73,947		4	0	0	4	0	0	100	105	Manchester, Bury and Ross	300,000
Newcastle and Darlington.....	23	500,000				405,728									nihil.			21	49	Manchester and Buxton....	250,000
Newcastle and North Shields.....	7	150,000		153,876		309,629		8,943		18,466					2	0	0	50	37	Mullingar and Athlone.....	
North Union.....	39	739,201		308,306		1,015,447		9,071		37,794		2	10	0	6	16	8	100	104	Newcastle and Berwick....	700,000
Paris and Orleans.....	82	1,600,000		400,000		1,978,415									0	16	0	20	39	Richmond & W. End Jun...	
Paris and Rouen.....	84	1,440,000						31,247		91,171					8	0	0	20	38	Scottish Central.....	700,000
Preston and Wyre.....	19	830,000		179,852		355,161		4,191		7,066					nihil.			50	18	Sheffield and Lincolnshire.	650,000
Sheffield and Manchester.....	19	1,150,000		311,759		951,455		11,895		14,876					nihil.			82	93	Shrewsbury and Gd. Jun...	400,000
South Eastern.....	88	2,996,000		1,530,277		3,464,172		40,993		81,482		0	10	6	2	2	0	50	39	Shrew. Wolv. Dudley & B.	900,000
Taff Vale.....	30	465,000		154,785		590,006		8,509		18,414		1	0	0	6	5	0	100	55	Trent Valley.....	900,000
Ulster.....	25	519,150		20,000		348,626		5,401		13,856		0	15	0	5	1	8	29	37	West London Extension...	64,000
Yarmouth and Norwich.....	20½	187,500		62,500		230,250									nihil.			16	25	West Yorkshire.....	1,000,000
York and N. Mid. and Leeds and Selby.....	28	1,062,500		167,500		676,644		27,132		55,752		2	10	0	10	0	0	50	100	Whitehaven and Maryport	100,000

Steam and Miscellaneous.

Steam and Miscellaneous.							NAME OF COMPANY.		NAME OF COMPANY.					NAME OF COMPANY.					
NAME OF COMPANY.	Num. of shares.	Am't. of share.	Amount paid.	Div. p.c. per ann.	Last price.	Present price.			Num. of shares.	Am't. of share.	Amount paid.	Div. p.c. per ann.	Last price.	Present price.					
Anglo Mexican Mint....	10,000	10	10		15½	15½	Loughborough.....		70	142½	142½	70	1140						
Anti Dry Rot.....	10,000		18½		2		Monmouthshire.....		2,409	100	100	10	160	160					
Australian Trust Company.....	5,700	100	35		34½		Melton Mowbray.....		250	100	100	10	117	117					
General Steam Navigation.....	20,000	15	14	10	27½	27	Mersey and Irwell.....		500	100	100	10							
Gt Western Steam Pa.....			100		25		Macclesfield.....		3,000	100	100	2½	15	15					
Metropolitan Wood Pav.....	15,000	10	6	5	6½		Neath.....		247	100	100	17	365	365					
Patent Elastic Pav.....	10,000	1	1	5	1½		Oxford.....		1,786	100	100	30	505						
Peninsular and Oriental..	11,493	50	50	7	64½	65	Regents or Loncon.....		21,418	33½	33½	2½	25	25					
Ditto.....	3,200	50	40	7			Shropshire.....		500	125	125	6	120	120					
Polytechnic Institution.....				6			Somerset coal.....		800	150	150	7½	123	123					
Reversionary Int. Soc.....	5,387	100	100	4½	104	104	Stafford and Worcester...		700	140	140	25	480	480					
R. Mail Steam Packet.....	15,000	100	60		36½	37	Shrewsbury.....		500	125	125	12	230	230					
South Western Steam.....	4,000	25	5				Stourbridge.....		300	145	145	14	360	360					
Ship Owners' Towing.....	3,000	10	7½	10	15		Stroudwater.....		200	150	150	19							
Thames Tunnel.....	4,000	50	50				Swansea.....		533	100	100	15	240	240					
University College.....	1,500	100	100				Seyern & Why & Rail Av.....		3,762	26½	26½	5½	30	30					
Canals.							Trent and Mersey.....		2,600	50	50	65	495						
Ashby de la Zouch.....	1,432	113	av.	4	70	70	Thames and Medway.....		8,149	19½	19½		10	10					
Barnsley.....	720	100	100	14	180	180	Warwick and Birmingham.....		1,000	100	100	10½	167						
Birmingham, 1-16 share.....	3,000	118½	79	10	150	160	Warwick and Napton.....		980	100	100	8½	122						
Do. and Liverpool Junction.....	4,000	160	100		13½	13½	Water Works.												
Coventry.....	500	100	100	20	365	365	Birmingham.....		4,800	25	25	3½	28	28					
Cromford.....	460	do.	do.	24	250	250	East London.....		4,433	100	100	8	223	225					
Derby.....	600	do.	do.	9	105	105	Grand Junction.....		5,500	av.	41	2-3	7½	88	90				
Erewash.....	231	do.	do.	33	440	440	New River L. B. Ann.....		1,500				2½						
Forth and Clyde.....	1,297	400½	40½	4	440	440	Manchester and Salford....		6,486	av.	30	8½	57	57					
Grand Junction.....	11,600	100	100	7	162	161½	Vauxhall, lt. S. London....		1,000		100	5	55	55					
Grand Surrey.....	1,500	do.	do.		20		West Middlesex.....		8,294	av.	63½	6½	126	127					
Gloucester and Rerkley....	5,000	do.	do.		8	8	Docks.												
Grantham.....	749	150	150	8	185	185	Commercial Dock.....		1,065	100	100	3	80						
Lancaster.....	11,699	47½	47½	3	40	40	East and West India.....			sto.		5½	137						
Leeds and Liverpool.....	2,897	100	100	34	640	640	London.....		3,238,310	sto.		4½	114½	115					
Leicester.....	545	140	140	9	139	139	St. Katharine.....		1,352,752	sto.		5	116	171					
							Southampton.....		7,000	50	50								

STATE WORKS.

[illegible]

AMERICAN RAILROADS.														SALES.	
RAILROADS.		Length in miles.	Cost.	Loans and debts.	Number of shares.	Paid on hare	1843. Income.		Div. per cent.	1844. Income.		Div. per cent.	Previ- ous prices	Week ending June 25th.	
Me.							Gross.	Nett.		Gross.	Nett.			Shares.	Price
N. H.	1 Portland, Saco and Portsmouth.....	50	1,200,000				89,997	47,166	7	131,404	62,172	6	103½	425	103½
Mass.	2 Concord.....	35	750,000									12	65		
"	3 Boston and Maine.....	56	1,485,461				178,745	68,499	6	233,101	86,401	6½	117		
"	4 Boston and Maine extension.....	17 1-4	455,703	unfin.											
"	5 Boston and Lowell.....	26	1,863,746				277,315	144,000	8	316,909	147,615	8	123	5	120
"	6 Boston and Providence.....	41	1,886,135	none.	18,600	100	233,388	110,823	6	282,701	156,109	6	114		
"	7 Boston and Worcester.....	44	2,914,078				40,141	162,000	6	428,437	195,163	7½	120½	3	120½
"	8 Berkshire.....	21	250,000	not stated				17,500	7	17,737					
"	9 Charlestown branch.....		280,260						13	34,654	13,971	5½	77½	15	80
"	10 Eastern.....	54	2,388,631				279,563	140,595	6	337,238	227,920	8	113½		
"	11 Fitchburg.....	50	1,150,000	just opn'd						42,759	26,835		121½	7	123½
"	12 Nashua and Lowell.....	14 1-2	380,000				84,079		8	94,588	34,944	10	124		
"	13 New Bedford and Taunton.....	20	430,962				50,671	24,000	6	64,998	24,000	6			
"	14 Northampton and Springfield.....		172,883	unfin.											
"	15 Norwich and Worcester.....	59	2,170,366	900,000	16,535	100	162,336	24,871		230,674	99,464	3	73½	4,956	71½
"	16 Old Colony.....		87,820	unfin.									106½	3	106
"	17 Stoughton branch.....	4	63,075	unfin.											
"	18 Taunton branch.....	11	250,000					20,000	8	96,687	20,000	8	118		
"	19 Vermont and Massachusetts.....														
"	20 West Stockbridge.....	3	41,516	200		100						4			
"	21 Western, (117 miles in Mass.,).....	156	7,686,202	4,686,202	30,000		573,882	284,432		753,753	439,679	3	104	589	104½
"	22 Worcester branch to Milbury.....		8,431	506											
"	23 Housatonic, (10 months,).....	74	1,244,123							150,000			31		
Con.	24 Hartford and New Haven.....	38	1,100,000	100,000	10,000	100						6	95		
"	25 Hartford and Springfield.....	25 1-2	600,000	400,000	2,000	100									
"	26 Stonington, (year ending 1st Sept.,).....	48	2,600,000	650,000	13,000	100	113,889			154,724	79,845		30	2,060	29½
N. Y.	27 Attica and Buffalo.....	31	336,211				45,896	7,522		73,248	48,033	0			
"	28 Auburn and Rochester.....	78	1,796,342	200,000	14,000	100	189,693	112,000		237,667	152,007	6	108	20	109½
"	29 Auburn and Syracuse.....	26	766,657			133½	86,291	27,334		96,738	52,544	6	116		
"	30 Buffalo and Niagara.....	22	200,000		1,500								100		
"	31 Erie, (446 miles,).....		5,000,000										29½	375	30½
"	32 Erie, opened.....	53						48,000		126,020	59,075				
"	33 Harlem.....	26	1,206,231							140,685	62,399		67½	710	69½
"	34 Hudson and Berkshire.....	31	575,613			50				35,029	1,789	0	11½		
"	35 Long Island.....	96	1,610,221	392,340	29,846					153,456	58,996	0	71½	5,342	72½
"	36 Mohawk and Hudson.....	17	1,317,893	400,000	10,000	100	69,948	58,780		79,804	45,763	0	58	100	58½
"	37 Saratoga and Schenectady.....	22	303,658				42,242	3,000	1	34,666	8,455	0			
"	38 Schenectady and Troy.....	20 1-2	640,800				28,043			32,646	6,365	0			
"	39 Syracuse and Utica.....	53	1,115,897	none.	16,000	62½	163,701	72,000		192,061	120,992	8	115½		
"	40 Tonawanda.....	43	727,332				76,227			114,177	75,865	5			
"	41 Troy and Greenbush.....	6	180,000												
"	42 Troy and Saratoga.....	25	475,801				44,325	21,000		38,502	9,971	2½			
"	43 Utica and Schenectady.....	78	2,168,165	none.	20,000	100	277,164	180,000	9	331,932	199,094	8	132		
N. J.	44 Camden and Amboy.....	61	3,200,000				682,832	383,880		784,191	404,956		115	10	112
"	45 Elizabethtown and Somerville.....	26	500,000												
"	46 New Jersey.....	34	2,000,000										94		
"	47 Paterson.....	16	500,000									6	87		
Pa.	48 Beaver Meadow.....	26	1,000,000												
"	49 Cumberland Valley.....	46	1,250,000												
"	50 Harrisburg and Lancaster.....	36	860,000										30		
"	51 Hazleton branch.....	10	120,000												
"	52 Little Schuylkill.....	29	900,000												
"	53 Blossburg and Corning.....	40	600,000												
"	54 Mauch Chunk.....	9	100,000												
"	55 Minehill and Schuylkill Haven.....	18	315,000						12				80		
"	56 Norristown.....	20	800,000										6½		
"	57 Philadelphia and Trenton.....	30	400,000										104		
"	58 Pottsville and Danville.....	29 1-2	1,500,000												
"	59 Reading.....	94	9,457,570	7,447,570	40,200	50				597,613	343,511		56	2,785	56
"	60 Schuylkill valley.....	10	1,000,000												
"	61 Williamsport and Elmira.....	25	400,000				20,000								
"	62 Philadelphia and Baltimore.....	93	4,400,000				43,043	200,000			210,000		18	8,126	17½
Del.	63 Frenchtown.....	16	600,000												
Md.	64 Baltimore and Ohio, (1st Oct.).....	188	7,623,600				575,235	279,402		558,620	346,946		49½	7	49½
"	65 Baltimore and Susquehanna.....	58	3,000,000										2½		
"	66 Baltimore and Washington.....	38	1,800,000				177,227	71,691		212,129	104,529		84		
Va.	67 Greensville and Roanoke.....	17 1-2	950,000												
"	68 Petersburg and Roanoke.....	60	969,880							122,871	72,898	3			
"	69 Portsmouth and Roanoke.....	78 1-2	1,454,171												
"	70 Richmond, Fredericks'g and Potomac.....	76	800,000							185,243	85,688	6			
"	71 Richmond and Petersburg.....	22 1-2	700,000												
"	72 Winchester and Potomac.....	32	500,000												
N. C.	73 Raleigh and Gaston.....	84 1-2	1,360,000												
"	74 Wilmington and Raleigh.....	161	1,800,000												
S. C.	75 South Carolina.....	136	5,671,452		34,410	75	201,464	77,456		532,871	140,196	5			
"	76 Columbia.....	66					227,532	93,190		328,425	180,704				
Ga.	77 Central.....	190	2,581,723				248,026	158,207		248,096	147,523				
"	78 Georgia.....	147 1-2	2,650,000												
"	79 Montgomery and West Point.....	89	500,000	170,000		100				35,000	15,000				
Ky.	80 Lexington and Ohio.....	40	450,000												
Ohio	81 Little Miami.....	40	400,000												
"	82 Mad river.....	40	152,000												
Ind.	83 Madison and Indianapolis.....	56	212,000												
Can.	84 Champlain and St. Lawrence.....	15						12,000		58,000	24,000		110		

Correspondents will oblige us by sending in their communications by Monday morning at latest.

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AMERICAN RAILROAD JOURNAL.

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Thursday, July 3, 1845.

RAILROADS IN CANADA.

During the past winter and spring we have bestowed much attention on the proposed railroads from Montreal to Portland, and from Ontario to Huron. There has been quite enough said and written, and the time for action is at hand. We not only did our part as faithful chroniclers of passing events, likely to influence these great works, but we also went so far as to point out what we considered the course to success. A gentleman is to be sent out from Montreal to London to lay the merits of the "Atlantic and St. Lawrence railway" before British capitalists, and, singularly enough, it is proposed to associate with him one who has played a leading part in drawing the province into the construction of a system of gigantic canals, about as many times greater than the productive canals of England, as the trade they are to accommodate is less. We particularly cautioned the friends of the Great Western railway against this error. Above all things we recommended an avoidance of those visionary and bombastic statements which have led to such unfortunate expenditures in this and the western States, and a close adherence to the system which has led to such brilliant results in England and Massachusetts: that is—to examine well the cost and income of the project before offering the stock to the public. Of the Atlantic and St. Lawrence railway we have seen merely a report of a preliminary survey, and some general statistics, and therefore do not feel ourselves warranted in forming, far less expressing, an opinion as to the actual value of the investment.

But with the Great Western railway, the case is different. The country is easy and well known, the winter is less severe than at Albany, and, what is of more importance than all the rest, the trade is already there to an extent far greater than is required to make the work eminently successful. Again, the kind and amount of trade and travel may be easily ascertained at Detroit and Buffalo, so that one or two well informed men of business, who enjoy the confidence of their fellow citizens, aided by an engineer of skill and character, might, in a few months, prepare a statement which could be fearlessly submitted to the severest scrutiny. If the Atlantic and St. Lawrence railway have any chance with British capitalists, we must think that the Great Western railway is—with fair play—certain of success. And here we may observe, that local jealousies and rival schemes abound there as every where else. The road is to be carried down the lake to Toronto, and extensive branches are to be carried to the north, besides which the western terminus is claimed by every hamlet from opposite Detroit to far up on the eastern

shore of lake Huron. As the American travel will all go by Detroit, and as that is the eastern terminus of the only railroad likely to be carried across the peninsula of Michigan, it is obvious that the best communication with that city is a great desideratum. If a line to that point offers equal accommodation to the Canadian trade and travel, then must we consider the case pretty well made out. We await impatiently the announcement of some definite and systematic plan of operations which we shall hasten to lay before our readers, with such remarks and elucidations as our humble yet zealous efforts are capable of affording.

EXTRAORDINARY LOCOMOTIVE.—We intended to notice in our last an "extraordinary performance of a locomotive;" but it turned out, according to the printer's figures—they were certainly not ours—that the engine itself was much more extraordinary than its performance, as it is represented to weigh 1308 tons, instead of 13.8 as written. The "Manatawney," the engine referred to, weighs 13 $\frac{1}{2}$ tons, instead of 1308, as printed.

AMERICAN RAILROAD IRON.—We ask the attention of those who would purchase railroad iron to the advertisement, in this number, of the "Maryland and New-York Iron and Coal Company," or, as it is better known, the Mount Savage Iron Company. This establishment is, as it will be seen, ready to receive orders and make contracts for railroad iron of all kinds, and we hope to be able to announce similar information from at least half a dozen other manufacturing factories before the end of the year.

CONCORD RAILROAD.—The report of the directors of the Concord railroad to the stockholders at their late annual meeting, shows that the amount of capital stock of the road is \$750,000, and the cost of the road and its appendages \$756,444. The length of the road is 34 3-5 miles, and the maximum grades 15 8-10 feet per mile.

The income of the road the last year amounted to \$181,842, of which the passenger department afforded \$90,545, freight \$90,099, and rents and interest \$1,196. The expenses amounted to \$82,928; of which \$11,528 were for road repairs; \$9,708 for wood and oil; \$6,393 for taxes, and other expenses. Net income \$98,913. Two dividends were declared, one of 6 and the other of 7 per cent.

RAILWAYS VS. CANALS IN GREAT BRITAIN.—By a notice in an English paper, we perceive that railways are gaining the ascendancy over canals in that country. "The Ellsmere and Chester, and the Birmingham and Liverpool canal companies," (now united,) advertise that they hold, including branches in various directions (through the coal and iron field of North Wales, etc.) 160 miles of canal.

They call the attention of their shareholders to the fact no longer to be disguised, that the public preference for railways is fast destroying the whole canal interest of the country. And the committee recommend, as the only means of saving their property, that application be made to parliament for the privilege of destroying the whole canal with all its ramifications, and of converting it into railroads.

Let any one visit the coal wharves at the head of the Schuylkill canal, and at its terminus in this city, and compare their utter desolation with the activity at the railway coal wharves on the Delaware, and he will be struck with the forced

conviction, that like causes produce like effects everywhere.—*Philadelphia Paper.*

REDUCTION OF FARE.—The Philadelphia and Baltimore railroad company inform the public that the fare between the two cities, by the mail lines, has been reduced to two dollars.

RECEIPTS.

THE MOHAWK RAILROAD.—The receipts on the Mohawk railroad show a large increase over last year, for the second week in June:

Passengers.....	\$1751 19
Freight.....	120 97
Total.....	\$1872 16
Same week last year.....	1267 00

Excess in 1845..... 605 16

WESTERN RAILROAD.—Receipts for the week ending June 21:

	1845.	1844.
Passengers.....	\$8,829	\$7,775
Freight, etc.....	7,669	7,136
Total.....	\$16,498	\$14,911

HARTFORD AND NEW HAVEN RAILROAD.—The receipts on this road (exclusive of mails) for May.

	1845.	1844.
	\$16,870 34	\$8,456 51

Receipts for the first six months since the completion of the Extension road to Springfield, ending June 9th, 1845..... 100,291 80

Receipts for the corresponding months in 1844..... 48,060 66
showing an increase of more than 100 per cent.—[Hartford Courant.]

READING RAILROAD.—Transactions for the second week in June for three years:

	1843.	1844.	1845.
Business.....	\$7,910 08	\$11,378 72	\$23,180 71
Coal transported, tons.....	4,490	9,251	20,537

THE COAL TRADE.—SCHUYLKILL VALLEY.

The shipments this week are by railroad 23,963-05, and by canal 6,077-18, amounting to 39,141-03 tons, the largest quantity ever sent from this region in any one week.

The following is a comparison of the trade from the Schuylkill and Lehigh regions, to the same period last year.

	1844.	1845.
Schuylkill—railroad,	155,971-03	282,550-15
" canal,	126,129-18	80,493-04
Lehigh,	96,930-00	138,522-00
	378,031-20	501,465-19
		379,031-01

Increase in 1845, - - - 122,434-10

BY RAILROAD.

From Pottsville and Port Carbon—total..... 120,306-17
From Schuylkill Haven—total..... 158,916-19
From Port Clinton—total..... 3,326-19

Total by railroad..... 282,550-15

BY CANAL.

From Pottsville and Port Carbon—total..... 50,245-11
From Schuylkill Haven—total tons..... 12,511-14
From Port Clinton..... 17,635-19

Total by canal..... 80,393-04

Total by railroad and canal..... 362,943-19

LEHIGH COAL TRADE.

Total shipments from Mauch Chunk. Lehigh coal and navigation co.

Summit mines, -	-	62522
Room run do., -	-	20353-82875
Beaver Meadow railroad and coal co.,		26679
From Penn Haven—Hazleton coal co.,		21906
From Rock Port—Buck Mountain coal co.,		7062

138522

WYOMING COAL TRADE—total..... 45,911

PINE GROVE COAL TRADE—total..... 23,466

MINEHILL AND SCHUYLKILL HAVEN RAILROAD—total tons..... 170,527-12

MOUNT CARBON RAILROAD—total tons.. 105,280

BALTIMORE AND WASHINGTON RAILROAD,
HIGH FARES.

We have felt called upon, in support of our favorite theory—viz: "low fares and high speed for passengers"—to refer more than once, and recently in a somewhat pointed manner, to the rates charged on the Baltimore and Washington railroad. We feel assured that our motives, in the course pursued by the Journal, cannot be misunderstood. We have neither personal interest to promote, nor private griefs to assuage, by a change of policy in this or other cases of railroad management—or rather, as we have sometimes thought, *mis-management*. Our only aim and object has been and is "the greatest good to the greatest number"—but placing *always first* those enterprising and liberal citizens who have invested, and in the case of the Baltimore and Ohio railroad company especially, having been *pioneers* in the cause, *risks* their capital; therefore the only question to be solved in our mind is what *rates of fare* on this road will, at the same time produce the best returns to the shareholders, and the greatest accommodation to those who *desire* to travel. This, we admit, is an important question; one which requires due deliberation before a change is adopted. We therefore give place to the following well written communication on the subject, from a source commanding our highest respect, which, had it come to hand in time, would have appeared in our last number, and we ask for it an attentive perusal by all who feel an interest in the matter—and who that travels does not?

[For the American Railroad Journal.]

High Fares—Baltimore and Washington Railroad.—The company who are the proprietors of this railway have been frequently and harshly censured for their alleged extortion in charging \$2 50 for carrying passengers from Baltimore to Washington. The complaint has come in part from the travelling public, and in part from the Virginia line of railroads south of Washington. The public forgets that before this railroad was opened they paid \$3 for making the same journey in seven hours over an inferior turnpike road, almost impassable in the winter, and that the railroad saves them at least five hours in time and fifty cents in money, and affords them a proportional increase of safety and comfort. The Virginia companies forget that but for this railroad they would probably have never come into existence, and that they were in fact constructed and put into operation some time after its completion, with a full knowledge that its charter fixed its charge at the rate above mentioned. They also forget that on their local, or way travel, one of them is charging even higher rates (8 cents per mile) than those of the Washington railroad, and that their clamor for a reduction of the latter has been dictated less by a regard for the public, than by a desire to break down a rival work, the Portsmouth and Roanoke railroad, which, in connection with the bay steamboats, has always competed with them for the southern travel.

I shall in a few words attempt to show that

their complaints against the Baltimore and Ohio railroad company are not so well founded as is generally believed.

In the first place that company has been in possession of the legal power to reduce the fare upon their Washington branch, only since the first of June. They have the matter under advisement, and have not yet decided what they will do, but desire, and should be allowed, full time to mature their measures upon the subject in question.

Again. The reduction is urged as much on the ground that it will advance the interests of the company, as that it will promote those of the public—and low fares are always pressed upon this principle. Railroad companies are not expected to do what will induce a permanent decrease in their revenue. On the ground of public good *alone*, such reductions are never advocated by reasonable men. Boards of direction must look first of all to the returns upon the capital intrusted to their management. Maximum dividends are their prime legitimate aim. Were it otherwise, they would be guilty of breach of trust. Happily the policy that will produce this maximum is also the one which will ultimately be most advantageous to the public. If the rates are too high, trade and travel is checked, and the revenue falls off, while the people are partially deprived of the use of the work. If too low, they have a fuller enjoyment of the improvement, but it is only for a time; as, the income becoming insufficient to keep it in proper repair, and pay a proper interest to the proprietors, it languishes, and perhaps finally comes to a stand. So that the public is at first badly accommodated, and at last not at all. These are self-evident truths, but they require to be recalled to the attention of those who clamor for low fares without consideration. The only right rule I conceive, is that of the *maximum revenue*. The principle may seem selfish, but it is not the less sound, and is indeed formally denied by no one.

Now the palpable inference from this is, that a rate of fare having been established and found to yield a fair interest on the capital invested, should not be changed without due consideration; for the effect of any change is always doubtful. This amounts to no more than saying that no prudent person takes a step in the dark if he can help it. The Baltimore and Ohio railroad company is now acting thus prudentially, and is looking narrowly into the probable issue of a reduction in its rates before it determines to reduce them.

That there is reason for caution will be seen from the following statements,

It is known that a line of post coaches, (established and supported by the Virginia railroads, to favor their rivalry of the bay route) has been running for a year or two past upon the turnpike in opposition to the Washington railroad. In the 10½ months preceding the 30th of April last, the Washington railroad carried

40,155	through passengers from Baltimore to Washington only, at	
\$2 50,	-	\$100,388
7,767	do. do., going south, do.	19,418

9,068	round trip passengers from Baltimore to Washington and back, \$2 50,	-	22,672
-------	--	---	--------

56,991	through passengers, yielding	\$142,478	
24,499	way passengers between intermediate points, short of the whole distance, and averaging a distance of about 17 miles, at \$1 06	-	25,840

81,490 pas'g'rs, producing a revenue of \$168,318

The post coach line on the turnpike within the same period, carried

9,337 passengers through from Baltimore to Washington only.

3,889 do. do. going south.

769 do. way between intermediate points.

13,995 total carried by coaches, at \$1 50 to the through passenger, with \$1 added for those going south by the Virginia railroad companies.

Adding together the through and way passengers carried by both the railroad and the coaches, we have

70,217 passengers carried through in both ways.
25,268 do. do. to less distances, say about one-half the whole distance.

Now if the railroad had carried *all* these passengers, at \$2 for through passengers, and five cents per mile for way, the loss to the company would have been, - - - \$6,399

And if carried for \$1 50 for through passengers and four cents per mile for way, the loss would have been - - - 41,508

So that if the stages had been driven off, and the whole travel secured to the railroad, to effect which the latter and greater reduction would have been doubtless necessary, the road would have lost upwards of \$40,000 of revenue, and have paid less than 6 per cent. on its cost.

But it will be said, would not the *number* of passengers have been so increased as to make up the same net revenue. Now, it is the *doubt* on the minds of the directors, on this very point, which leads them to hesitate as to the policy of the reduction; for it will be seen that under the half-price, round trip, fare of \$1 25, upwards of 9000 passengers made the excursion within the time above mentioned, and the *probability* is that *this number embraced nearly, if not quite, all of those whom the reduction of fare would have induced to make the journey.* In fact the 24 hours allowed for the trip, (one-sixth of which only is spent on the road,) will be, in the opinion of most of those who are acquainted with the federal metropolis, quite sufficient for the enjoyment of all the pleasure likely to be realized from the excursion. At least, it should be admitted to be a question not altogether free from doubt, and upon which the company interested may take time to deliberate, without deserving odium and reproach.

The truth of the matter then is—1st, that this company has in fact already exercised its power of reduction to its full extent in favor of excursion passengers, upon whom chiefly low fares would be likely to operate in augmenting travel; and that this class of passengers have been carried at the reasonable rate of \$2 50 for

80 miles, or $3\frac{1}{2}$ cents per mile. 2d, that the direction has good reason to fear that a reduction, at this juncture, on the general travel would be attended by a considerable decrease of the revenue of the road, which their prime and paramount duty to their stockholders would not warrant them in risking.

If then the professed confidence in the sagacity and honesty of these gentlemen be really entertained, why are they not left to judge of the propriety of a measure the results of which they have the means of foreseeing so much more clearly than others? I address myself, of course, only to those who recognize the principles laid down in the outset of these remarks. To those who demand low fares at the sacrifice of the proprietors of the work, I have nothing to say which would influence their opinions or silence their clamor, the continuance of which must therefore be submitted to with becoming patience. Z.

NEW HAVEN AND NORTHAMPTON RAILROAD.

—The New Haven and Northampton Canal Co. have had it in contemplation for some time, and are now concerting measures for an increase of capital, to enable them to lay down a railroad on their towing path from New Haven to Westfield and Northampton, eighty miles, connecting with the Northampton and Greenfield, and other contemplated roads, and thus bring the travel and transportation of the populous and thriving valley of the Connecticut to New York by way of New Haven, using both the canal and railroad, and tapping in its course the great Western road from Boston to Albany and Westfield, (sixty miles from here,) making it decidedly the nearest route to Albany—and should the Hartford and Danbury road ever be made, that too would be tapped at Plainville, (Bristol Basin,) twenty-seven miles from here.

The whole length being already graded, with the exception of some slight additions about the locks, having one entire level of twenty-six miles, with the advantage of a canal to transport all the materials for the superstructure, it has been ascertained that the whole can be done with the heaviest T rail, for about seven thousand dollars per mile—say \$560,000 for eighty miles! Many persons now express their surprise, that the canal company, or the New Haven people, did not avail themselves of the already graded banks of the canal to connect by railroad the upper valley of the river, and Albany and Westfield, with New Haven, as soon as the Boston people located their great road to Albany through Springfield, Westfield, &c.

It will be said, that there being one route already made at great expense, another, (although some twelve or fourteen miles shorter to Westfield, and considerably shorter to Northampton,) cannot be supported. This may be true to a certain extent at the present time—competition will produce low fares, which will benefit the people; and then it will be tested which road can best afford to carry for low fare, the one that costs only seven hundred and fifty thousand dollars, or the one that has cost, or will cost when completed, one or two millions of dollars! and even with this cost, thirty-six miles of it still in flat rail. The New Haven and Northampton road will be perfect in all its appointments, with the advantage of a first rate canal alongside of it for the transportation of heavy freight, and will connect about three hundred miles of railroad with New York, with the unusual advantage of water communication for heavy freight alongside of it for the whole distance!

The high price of iron, and other causes, prevented the proprietors of the canal company making application to the General Assembly at its last session, for the permission to lay down their intended road, nor did they intend to agitate the matter till they were ready to commence work—but we are happy to learn that all their arrangements will probably be completed before the meeting of the next Legislature, when it will be found that for about seven hundred and fifty thousand dollars, the company will have a first rate railroad of eighty miles in extent, and a canal of the same extent now in full and successful operation.—*New Haven Courier*.

We copy the above from the New Haven Courier, for the purpose of showing that those concerned are making use of suggestions contained in the Railroad Journal five years ago. In the number for June, 1840, will be found a communication from the pen of one of the engineers of that canal, giving in detail the estimates of the cost of converting the canal into a railroad. The above notice speaks of the "advantage of having a canal for the transportation of heavy freight, alongside the railroad." We would call the attention of the New Haven Courier to an article in the Railroad Journal for 19th June last, which gives a good idea of the relative advantage of railways and canals for heavy freight, as exemplified by the best lines for that purpose in this country, viz.: the Schuylkill canal and the Reading railroad.

We copy below the estimates referred to, as published in this journal in June, 1840.

"It now remains to show the practicability at a small expense, of making a railroad on the site of the canal. First, then, drain it effectually, by running ditches along the sides just at the foot of the inner slopes. Let the outer slopes of these ditches be continuations of the inner slopes of the canal—let the ditches be, say four feet wide at top, and one deep. The slopes of the canal are 1 foot perpendicular, to $1\frac{1}{2}$ horizontal; preserving the same slopes for the ditches, their bottom width would be one foot. The bottom width of the canal is twenty feet—the ditches occupying four feet on each side, still leaves sufficient width for the railroad between them. The earth obtained from the ditches would be sufficient to raise this space six inches, which would leave a dry solid roadway, one foot six inches, above the bottom of the ditches, ready to receive the superstructure. In a few instances the canal is 'below bottom,' that is, in crossing ravines, a single bank was sometimes thrown off, forming the towing path—the water being allowed to spread itself the whole length of the ravine. In such cases a culvert would be necessary to drain off the water, and the towing path would require to be levelled down to form the roadway. When a number of locks occur together, it would probably be necessary to change the location for a short distance: there may be some five or six instances where this would require to be done; in all other cases the elevation could be overcome without leaving the line of the canal, and at a very trifling expense; where they occur singly, which is frequently the case, the elevation would be overcome by a plane = 1056 feet long, on an inclination of fifty feet to the mile. Wherever they are 1056 feet apart, the elevation would be overcome with the same ease. By adopting such grades as those on the summit division of the Western railroad—79.9 feet per mile, the line of the canal need be departed from in not more than one or two instances. At Granby, for instance, there are six locks; the elevation overcome is, I think, 36 feet, and the distance from the lower to the upper one, is half a mile, which brought to a plane, gives an inclination of 72 feet per mile. The planes at the locks where they occur singly, to bring them to a grade of 50 feet to the mile, would each require about 2000 cubic yards of earth to be

moved, in cutting and filling which, at 10 cents per yard, gives \$200. But I will suppose the obstacle presented by each lock to cost in its removal \$1000. The whole number of locks is about 60. We have then the sum of \$60,000 for this item. I will state in this place that there is one level on the canal 28 miles long. The ditches give for the 80 miles, 78,160 cubic yards of earth, at six cents per yard, gives \$4,689 60. Levelling down the towing path at certain places, I will estimate at \$500 per mile. The superstructure for a single track may be safely estimated at \$5000 per mile.

"RECAPITULATION.

Planes at 60 locks.....	\$60,000 00
78,160 cub. yds. of earth in ditches, at 6c. 4,689 60	
Levelling down towing path at certain places, at \$500 per mile.....	40,000 00
Superstructure, at \$5000.....	400,000 00
Total.....	\$504,689 60

Average per mile..... 6,308 62

"Thus you have a railroad for the last mentioned sum per mile, equally as good as one which, were it graded for the express purpose, would cost \$15,000 per mile. It is true there are many short curves in the canal, but it need only be borne in mind, that these curves will occur on level grade, and the difficulty vanishes. I think there are few of less radius than 400 feet curves, which are frequently to be found on railroads combined with steep grades. On a railroad in Pennsylvania there are curves of 240 feet radius. Some of you may apprehend danger to such an enterprise, from the competition of other roads, either built or contemplated; but allow me to present you with this view of the case. The Hartford and New Haven railroad was estimated to cost about \$800,000. It has probably cost fully that sum. Suppose it extended to Springfield, or even to Northampton, at the rate of \$15,000 for a single track a low estimate, and we have the sum of \$1,460,000 as the cost of a railroad from New Haven to Northampton, by the way of Hartford, or an average sum per mile of \$18,250, besides having the disadvantage of not being a continuous line. It is true the Hartford and New Haven railroad is graded for a double track.

"I now ask, can you have anything to fear from a railroad which would cost nearly three times as much as yours? I may safely say nothing. Once having reached Northampton, the valley of the Connecticut is before you to invite your enterprise.

"The estimate of cost which I have made is necessarily quite a rough one, but I am satisfied it cannot vary much from the truth. Locomotive power, etc., have been excluded, as being in this communication unnecessary.

"I will here add, that the aqueducts, which might be used as viaducts, and culverts, on the canal, are of the most permanent and substantial kind.

"If this communication shall be so fortunate as to awaken inquiry on the subject, I shall feel that it has not been made in vain; for I am satisfied that the project needs but be fairly investigated to be carried into operation."

OGDENSBURG AND LAKE CHAMPLAIN.

The trade of the West—exhibiting the merits of the proposed route from Boston, across lake Champlain to Ogdensburg.

Opposite the termination of this railroad, at Ogdensburg, west of the St. Lawrence, spreads out the rich province of Canada West. With a soil unsurpassed in richness by the same extent of territory in America, with a population rapidly increasing in numbers and improving in character, with a healthy climate and a stable government, this province bids fair in a few years to be one of the best agricultural districts of the whole British empire. Ten years ago it contained a population of 320,000. The total amount of property at that time was \$187,000,000, and the annual products were over \$60,000,000. The value of goods imported into both provinces in 1836, was over \$13,000,000. Since that time there has been a very great increase of population and business. As the population of the eastern province was larger than the west-

ern at that time, it is fair to suppose that she retained a proportionate amount of the imports, the balance being forwarded west by the St. Lawrence and the canals. There must have been at least \$5,000,000 worth of British and Irish produce and manufactures and foreign and colonial merchandize sent to Canada West through the St. Lawrence and the Canada canals in the year 1836, and the amount has probably doubled since that time.

No one communication from the basin of the St. Lawrence to the Atlantic can command the whole of this trade.

[For the American Railroad Journal.]

RAILROAD ROUTE FROM NEW YORK TO THE WEST.

Very much has been written and said as to the best railroad line from New York to the western lakes. From the varied explanations, it would scarcely be inferred that 325 miles of the distance is now occupied by a railway. The distance from New York to Buffalo, by the Central railway line from Albany west, is 475 miles. From New York to lake Erie, by the Erie railroad route, is at least 480 miles. How many persons in the city of New York are aware of the fact, that it is actually as far by the Erie railroad to Dunkirk, as it is by the way of Albany to Buffalo? It has been the experience of the writer to find very few who were correctly advised. They are still less aware of other equally stubborn facts that have an important bearing.

Grades and curves measure the value and the capacity of the railway. Of two routes between the same points, that which is the most level, and has the least curvature, has by so far the advantage in capacity and in economy of management. This is the common-sense practical way of looking at improvements of this character. So long as the laws of gravitation remain, the fact is fixed, that railroads with severe grades, and sharp curves, can never successfully compete with those of comparatively level face, and of straight lines.

There are well established rules to show the ratio in which the power of the engine is diminished, or increased, in ascending grades of greater or less inclination. We have found, to be sure, that we can ascend grades of 84 feet to the mile, by using an engine of enormous weight; but we have not yet found an economical iron structure, that will endure the pressure of this great weight. These grades can only be ascended by such a machine as is practically unfitted to a level road. To endure the weight of the engine will require so rigid and strong a structure, as to add greatly to the cost of construction. Already, upon the western railroad in Massachusetts, many of the bars are failing in consequence solely of the great

weight of the motive power required to overcome the grades.

The railway from New York to Albany may be so located as to be very direct, and with slight grades. From Albany to Buffalo it is known to be very straight, and with slight inclinations, and although now of a wood structure, yet preparations are making to relay it with an improved rail bar, when it will exceed any road in this country by reason of its level and direct line.

One very interesting objection is made to it by a committee composed of members of our legislature and commissioners of the Northern railroad from Ogdensburg to lake Champlain, who have lately visited Boston, and addressed a letter to the Hon. Abbott Lawrence, commending their project, and tendering it to the people of Boston, as the most favorable route between that city and the western country, because "the New York roads located along the line of our canal are compelled to pay tolls of the canal upon all freight passing over them, equal to 35 cents for each barrel of flour, and on the average \$5 per ton for merchandize."

In plain language, this means, as the fact is, that the route along the canal is the most favorable by nature, and the one upon which capitalists invest their money, but there are tolls upon this line, which clogs it, so as to make others hope to participate in a business which they otherwise would have difficulty in sharing. How long will these tolls be continued against the good sense of an intelligent people? They were imposed by rival interests—by those living upon unfavorable routes, with the view to be able to say, what this committee have now said, that *while they are continued*, they add to the cost of transportation almost as much as the grades and curves upon these prospective competing routes.

These tolls must be taken off; they are a burden upon the consumer; they go to enhance the price of property at the place of sale, and are as narrow, illiberal and unjust as if the legislature should attempt to equalize the fertility of the soil in Ontario, Livingston and Monroe, with that of Delaware and Sullivan, or Franklin and Clinton, by imposing such tax upon the surplus productions of the former as would bring them down to a level with the last named counties. They will be swept away when they come to be examined, as other like burdens have been before.

The address of this committee, in their zeal to enlist the aid of Boston in their plans, thus disposes of two other railroad routes:

"The New York and Erie road will be 580

(probably 480 was intended,) miles in length—and from its *high grades and curvatures*, can never compete with our northern route."

"When the Harlem railroad shall be extended to Albany, as it *will be within two years*, can it be expected that the Western railway *over the Berkshire mountains* will take much of the freight coming over the Central railway of our state? We think not: freight could pass on a railway from Ogdensburg, via Burlington and Boston, to Springfield, at less cost than from Buffalo to the same point, considering *the tolls paid by the Central line*."

Thus, it is the *tolls* imposed by the New York legislature upon the transportation of property over a level and convenient railway, through a densely populous region, that are set forth as the leading reason to invite capitalists to invest money in the construction of a railway through a wilderness at the north, or winding among and over mountains at the south.

Let the Central railway be what such a work should be, that is, free to do all that can be done over it, without being clogged and tasked with tolls; let there be a good road from New-York to Albany, and a short connection established between Syracuse and Oswego; and New-York will then have an opportunity of testing the value of railways; and there will be an outlet from lake Ontario that will be found quite as available as any other.

It is a policy which we shall soon have outlived, to contribute largely to one line and to impose *burdens* on another. Yet this has been practically done in our state. Three millions of dollars are given to the Erie railroad company, to enable them to build a road some portion of the way within sixty miles of the Central route, and the broadest powers are granted as to carrying freight, &c., while, on the Central route, the transportation of freight is *prohibited* in summer and *tolls* are imposed in the winter.

The impropriety of this will be apparent on stating the fact. The favors *granted*, or the money expended, in aid of any route, is by no means objected to; but the short-sighted policy of curbing and restraining another line, is not worthy of an intelligent people. Let each one stand upon its own merits. Give the railways and the canal a fair opportunity, without attempting to monopolize business by legislative action for either. A proper competition, checked by physical laws, which are the only rational restraints, among intelligent men, would enure to the proper development of the western country, to the great advantage of the city, and to the benefit of our state.

W.

We concur fully with "W." in his views in relation to the superior advantages of a

level route and straight lines for railroads, as well as in relation to the impolicy—more than that, the *injustice*—of charging canal tolls upon freight carried on the railroads over the Central route. We consider it, and have often spoken of it as, a narrow, illiberal, and unjust policy, alike oppressive to the business community and to those who have invested their capital at their own risk, but for the public convenience, in the line of railroad from the Hudson river to lake Erie. We look upon it much in the same light that we do the levying a *direct tax*, by the state of New Jersey, upon travellers who pass by railroad between this city and Philadelphia; and by the state of Maryland upon those who pass between Baltimore and Washington; and as *all* now look upon the former course of this state, when, in 1817 and 1818, it levied a tax of one dollar upon each passenger who passed between Albany and N. York by *steamboat*, to aid in constructing the Erie canal! as oppressive, unjust, and undignified; and which ought, therefore, to be abandoned, as it surely will soon be, that business and travellers may be at liberty to seek the natural and the most convenient channel, unrestricted by rival works, or by unwise state policy.

[For the American Railroad Journal.]

AUGUSTA, GA., June 24, 1845.

I presume the editor of the Railroad Journal has, ere this, heard of the great enterprize we have on hand, in an attempt to make our city a southern Lowell.

We have commenced and are rapidly executing a canal for manufacturing purposes. It will be nine miles in length, including rather more than two miles in the city. The bottom is 20 feet wide, and the depth 5 feet at the upper end,—slopes 2 to 1. The nature of the ground in the city gives us three falls of about 13 feet each.—The Savannah, from which the water is taken, is, at the lowest water 500 feet wide, and averages 2 feet deep, so that we may safely calculate on an unfailing supply.

Our river is navigable above the falls about 100 miles, and the extension of our railroad to the state road will give us the control of an immense trade with the interior. By these means we have the raw material, provisions, fuel, and building materials at the cheapest rate at our doors. The river, and the railroad to Charleston afford easy means of communication with the seaboard; and, altogether, our local advantages are such as to present the greatest attraction to men of skill and enterprize south of Lowell. I trust these will be duly appreciated by our northern friends, and that their capital and skill will contribute to develop our great resources.

GEORGIA.

We were not aware of the contemplated improvement above referred to, and are

therefore the more obliged to the writer for the information. We have long entertained a favorable opinion of the enterprize and public spirit of the citizens of Augusta, Ga., though our acquaintance with them is exceedingly limited. We usually form our opinion of the people, or of the *business men*, of a city or village where we have not a personal acquaintance, from their *newspapers*; and in this case, from the "Chronicle & Sentinel," which we perceive is published *daily, tri-weekly, and weekly*, though, by-the-by, we only see the *weekly* sheet, which is one of the largest and best filled sheets received by us from the south; and, therefore, with *such* a water power, in one of the most healthy localities, if we recollect correctly, in the south, and with *such* resources for obtaining cheaply building materials, provisions, and the raw material, we anticipate for AUGUSTA, at no distant day, an elevated position amongst the manufacturing towns in this country—but more especially in the region south of Mason & Dixon's line—and we predict that it will ultimately become largely interested in the manufacture of cotton and other articles. We have only to say to those engaged in this, for Georgia, important work, *develop your power with your own means and enterprize*, then invite capitalists, experienced in manufacturing, to *join* you in its use and advantages; but by all means, avail yourselves of the opportunity which it offers to participate in the benefits arising from *working up*, as well as in producing, and dealing in, the raw material. We heartily wish those interested early and ample success, towards which we shall be always happy, if in our power, to contribute.

[For the American Railroad Journal.]

A NOVELTY.—We observed a few days since, below Manayunk tunnel, on the Philadelphia and Reading railroad, an iron bridge constructed by the company, at their shop at Pottstown, on the Howe Truss principle, of superior workmanship and finish. The span of the bridge is 34 feet; the cords are made of wrought iron, having a centre truss. The weight of the main truss is three tons, and the whole weight of the bridge, including every thing, 9 tons 1 cwt. The cost of this bridge is about \$1600, and it is the first iron bridge that has ever been put up in this country.

The above is from the Anthracite (Pottsville, Pa.) Gazette. The writer is mistaken in supposing that the bridge referred to is the "first iron bridge that has ever been put up in this country." The Erie canal, at Utica and Rome, is now spanned by two or three iron bridges, built some four or five years since, by Mr. S. Whipple, civil engineer, of Utica. They are constructed like the Reading railroad bridge, of cast and wrought iron combined, and of a form to give, as the writer of this believes, much greater strength, according to the quantity of iron used,

than the Reading bridge. These bridges have a space of 80 feet in the clear, are designed for highway bridges, and cost from 1500 to 1600 dollars.

J.

We shall be much obliged to "J." or to Mr. Whipple, the builder, for a particular description, accompanied by drawings, of the bridges referred to at Utica and Rome. If we receive them, we will make them and the builder also better known, at least to the railroad community.

INTERNAL IMPROVEMENT.—*Portsmouth, Exeter and Manchester Railroad*.—A petition will be presented to the General Court of New Hampshire, at the June session, for an act to incorporate a company, with power to construct a "railroad from Portsmouth to either or both the above named places, and to form a junction with, or to cross the Boston and Maine railroad, at any point in the towns of Durham, Newmarket or Exeter, as shall seem to the petitioners most likely to promote the prosperity of Portsmouth, of the towns above mentioned, and of the State at large."

The petition is now receiving signatures in this town, and other towns on the route will also petition. Such a road would bring Concord and Manchester twenty-two miles nearer the seaboard at Portsmouth than at Boston. As the good effects of such a road on the business and prosperity of this section, have been ably and fully set forth in a pamphlet by "A Citizen," we will not go into any detail of the matter here. The road is of more consequence to this town than any that has been constructed in our neighborhood.—*Portsmouth Journal*.

The above is a very noticeable project. It is the first thing of importance that has appeared for a long time, in the shape of an actual development of New Hampshire *within herself*. The map shows at once, the topographical propriety of the undertaking.—Business relations may at present, and for a long time to come, direct the transportation of goods from the valley of the Merrimack to Boston, and so, in return. But the interior of New Hampshire will eventually seek the *shortest* outlet to the sea.

DIVIDENDS.

The directors of the Boston and Worcester railroad have declared a dividend of 4 per cent. on the capital stock of the corporation from the profits of the six months ending on the 31st of May last, payable on the 1st of July. The receipts of income during the 6 months, with a reserve of \$13,162 from the previous dividend, amounted to \$236,203, and the expenses to \$107,982, leaving a net income of \$127,221.

The Boston and Providence railroad company have declared a dividend of three and a half dollars per share, payable 1st of July at the Phoenix bank, New York.

A semi-annual dividend of four per cent. was declared on Saturday, 14th inst., by the directors of the Tonawanda railroad company.

The directors of the South Carolina railroad have declared a dividend of \$2 25 per share for the last six months.

Among the railway projects talked of in England is one to connect Bristol with South Wales, by means of a tunnel under the Severn!

PROPOSED TUNNEL THROUGH LONDON.—It is said Mr. Stephenson has suggested the construction of a tunnel from Hyde-park-corner to Mile-end, for the purpose of easing the great leading thoroughfares of their present throng of passengers. From this trunk line communication would be had with the streets above by means of spiral staircases, under cover, at regular distances, and branch tunnels would lead off to the various suburbs north of the Thames, Regent's-park, Highgate, Hampstead, Tottenham, &c.; in these tunnels railway omnibuses would run, and a journey from one end of London to the other might be accomplished in half an hour or forty minutes, while the streets above would be considerably cleared, and much of the present confusion prevented. Such a proposal may at first to many persons appear absurd, but the plan is undoubtedly practicable, and though enormously expensive, the nature of the soil (London clay) is favourable, and the great traffic which would arise would probably pay a moderate interest.

INSTITUTION OF CIVIL ENGINEERS, May 20th, 1845—Sir John Rennie, (President,) in the chair.—Mr. P. Barlow presented, as an appendix to his paper on the atmospheric system, the results of a series of experiments upon the force employed in drawing carriages up an inclined plane of 1 in 43 by a stationary engine and rope traction upon the Canterbury and Whitstable Railway. From these experiments it appeared that the stationary engine of 25-horse power, with a rope, would produce an useful mechanical effect, equal to the engine of 100-horse power on the Dalkey Atmospheric Railway—thus proving by direct facts the deduction of Mr. Stephenson as to the amount of lost power by the latter system. These statements were ordered to be printed with Mr. Barlow's paper.

APPLICATION OF ELECTRICITY IN THE MANUFACTURE OF METALS.—At the Society of Arts, on 14th May, Mr. Whishaw (secretary) read a paper by Mr. Napier, "On Separating Metals from their Ores by Means of Electricity." After giving an account of the progress made in the application of

electricity for the purpose of manufacturing metals from their ores since the year 1839, the paper describes the author's method of operating, for which purpose he uses a black-lead crucible, lined inside, within an inch or two of the bottom, with a coating of fire-clay, which is allowed to dry, and a second and third coat superadded; the ore to be operated on (which, if a sulphate, should be previously roasted) is put into the crucible, together with a little lime or other flux for the purpose of giving it fluidity. The crucible, with its contents, is then placed in a common crucible furnace; a battery of zinc and copper is prepared with five pair of plates, excited by a very dilute sulphuric acid; to the zinc of this battery is attached an iron rod, the end of which is inserted in the furnace, and caused to touch the outside of the crucible; another rod, either of iron or copper, is used, having at one extremity a disc of iron or coke, which is made to rest on the surface of the fused mass in the crucible—thus, the electricity passes down through the whole fluid mass in the crucible, and in the course of an hour the metal is separated from the ore, and deposited at the bottom.—*Mining Journal.*

ZINC THREAD.—The *Moniteur Industriel* announces that an important discovery in the manufacture of zinc thread has been effected by M. Boucher, who, after many essays, has at length been able to produce zinc threads of any diameter, of great suppleness, and presenting all the qualities of an excellent metal thread. In all cases where a great tension is not required, this thread can be substituted with advantage for that of iron, brass, or copper. Its applications at present are very important, and increase daily. It is used for culinary purposes; there are metallic threads, threads for plants, clasps, points for soft wood, cords for bleaching yards, &c. The price of zinc has doubled during the last few years, but, notwithstanding, M. Boucher vends his thread at a lower price than the galvanic iron thread, and considerably less than brass thread. There can be no doubt that this is an important invention, and we are satisfied that a large demand will shortly test its merits.

PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. *JOHN F. WINSLOW, Agent.*

Albany Iron and Nail Works, Troy, N. Y. The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co., Boston.

TO RAILROAD COMPANIES AND MANUFACTURERS of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside. *THOMAS & EDMUND GEORGE, ja45 N. E. cor. 12th and Market sts., Philad., Pa.*

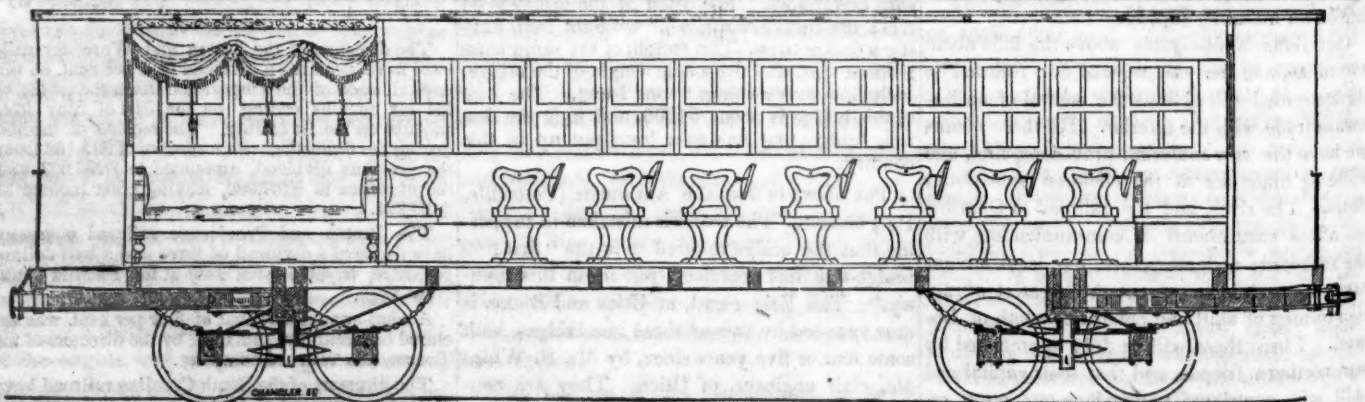
PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York, will be punctually attended to.

HENRY BURDEN, Agent. Spikes are kept for sale, at Factory Prices, by I. & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

. Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand. ja45



DAVENPORT & BRIDGES CONTINUE TO MANUFACTURE TO ORDER, AT THEIR WORKS, IN CAMBRIDGEPORT, MASS. Passenger and Freight Cars of every description, and of the most improved pattern. They also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices. All order punctually executed and forwarded to any part of the country. Our Works are within fifteen minutes ride from State street, Boston—coaches pass every fifteen minutes.

NEW JERSEY RAILROAD AND TRANSPORTATION COMPANY.

Length of Road, 33 96-100 miles.

Capital, \$2,000,000.

JOHN S. DARCY, Esq., President.
J. P. JACKSON, Esq., Secretary.ROBERT SCHUYLER, Esq., Vice President.
J. WORTHINGTON, Esq., Treasurer.

Leave New York, foot of Courtland street.	DAILY.				SUNDAY.	
	A. M.		P. M.		A. M.	P. M.
For Newark.....	9, 11, 12.....		2, 3, 4 3-4, 6, 7 1-2		9.....	4 3-4
" Elizabethtown.....	9, 11.....		2, 3, 4 3-4, 6.....			
" Rahway.....	9, 11.....		3, 4 3-4, 6.....			
" New Brunswick.....	9.....		3, 4 3-4.....			
Leave New Brunswick...	6, 7 1-2, 11 1-2.....		8 3-4.....		11 1-2	8 1-2
Rahway.....	6 3-4, 7, 8 1-4, 12.....		4 3-4, 9 1-4.....			
Elizabethtown.....	7, 7 1-2, 8 1-2, 10 1-2, 12		3 1-2, 5.....			
Newark.....	7 1-2, 8 1-4, 9, 11.....		11 1-2, 4, 5 1-2, 7, 9 3-4		11 3-4	9 3-4
For New York.						

9 A. M. and 3 P. M. to meet the Morris and Essex trains, and 9 A. M. and 4 3-4 P. M. to meet the Somerville train, and for Philadelphia.

TABLE OF DISTANCES AND FARES.

	New York.		Newark.		Elizabethtown.		Rahway.		N. Brunswick	
	Miles.	Cents.	Miles.	Cents.	Miles.	Cents.	Miles.	Cents.	Miles.	Cents.
New York.....			9 1-4	25	14 1-2	31 1-4	19 3-4	31 1-4	31 1-2	50
Newark.....	9 1-4	25			5 1-2	12 1-2	10 1-2	25	22 1-2	50
Elizabethtown.....	14 1-2	31 1-4	5 1-2	12 1-2			5	12 1-2	16 3-4	50
Rahway.....	19 3-4	31 1-4	10 1-2	25	5	12 1-2			11 3-4	37 1-2
New Brunswick.....	31 1-2	50	22 1-2	50	16 3-4	50	11 3-4	37 1-2		

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.

TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved SPARK ARRESTER, recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger and freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits:

E. A. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendent Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendent Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburg and Jackson Railroad, Vicksburg, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, or to Messrs. Baldwin & Whitney, of this city, will be promptly executed.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms.

•• The letters in the figures refer to the article given in the Journal of June, 1844.

SAMUEL NOTT, CIVIL ENGINEER, Surveyor and General Agent, Bangor, Me. Railroads, Common Roads, Canal, Factory and Mill Sites Towns, Farms, Wild Land, etc., surveyed. Plans and Estimates for Buildings, Bridges, etc., prepared, and all appertaining business executed.

— REFERENCES. —

Boston, { Col. James F. Baldwin, Civil Engineer.
Col. J. M. Fessenden, "
Wm. Parker, Esq., Engineer and Superintendent
Boston and Worcester railroad.

SPRING STEEL FOR LOCOMOTIVES. Tenders and Cars. The Subscriber is engaged in manufacturing Spring Steel from 1 1/4 to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, Agent.

ja45 Albany Iron and Nail Works, Troy, N. Y.

FOR SALE, AT A SACRIFICE—A LOCOMOTIVE Engine, 4 wheels and Tender. Cylinders 10 in. dia., Stroke 16 in., Cylinders inside of smoke box. Weight of engine, with wood and water, about 9 tons. This engine and tender are new, and of the best materials and workmanship. If required, would be altered to a 6 wheeled engine.

Also, 1 20-horse High Pressure Steam Engine.

2 8-horse "

1 Upright Hydraulic Press.

All of which will be sold low, on application to

T. W. & R. C. SMITH.

Founders and Machinists,
Alexandria, D. C.

May 12th

RAILROAD IRON AND FIXTURES. THE Subscribers are ready to execute orders for the above, or to contract therefor, at a fixed price, delivered in the United States.

DAVIS, BROOKS & CO.,

ja45 21 Broad st., N. York.

MACHINE WORKS OF ROGERS, KETCHUM & GROSVENOR, PATTERSON, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed being large, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,

ja45 Paterson, N. J., or 60 Wall street, N. York.

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee.

G. A. NICOLLS,

ja45

Reading, Pa.

GEORGE VAIL & CO., SPEEDWELL IRON Works, Morristown, Morris Co., N. J.—Manufacturers of Railroad Machinery; Wrought Iron Tires, made from the best iron, either hammered or rolled, from 1 1/4 in. to 2 1/2 in. thick—bored and turned outside if required. Railroad Companies wishing to order, will please give the exact inside diameter, or circumference, to which they wish the Tires made, and they may rely upon being served according to order, and also punctually, as a large quantity of the straight bar is kept constantly on hand.—Crank Axles, made from the best refined iron; Straight Axles, for Outside Connection Engines; Wrought Iron Engine and Truck Frames; Railroad Jack Screws; Railroad Pumping and Sawing Machines, to be driven by the Locomotive; Stationary Steam Engines; Wrought Iron work for Steamboats, and Shafting of any size; Grist Mill, Saw Mill and Paper Mill Machinery; Mill Gearing and Mill Wright work of all kinds; Steam Saw Mills of simple and economical construction, and very effective iron and Brass Castings of all descriptions.

ja451y

TRAINS LEAVE	FOR	BY	RAILROAD	DAYS	A. M.	P. M.	MILES.	FARE.
Boston	Portland	Eastern,	Daily,	7 1/2	2 1/2	106	\$3 00	
"	Portsmouth	"	"	7 1/2	2 1/2	54	2 00	
"	Newburyport	"	"	7 1/2	2 1/2	35	1 25	
"	Salem	"	"	7 1/2, 9, 11 1/2	2 1/2, 3 1/2, 4 1/2, 6	14	50	
"	Portland	Boston and Maine,	"	7 1/2	2 1/2	109	3 00	
Portland	Boston	"	"	7 1/2	3	109	3 00	
Boston	Lowell	Boston and Lowell,	"	7 1/2, 11	2 5	26	75	
Lowell	Boston	"	"	7 1/2, 11	2 4 1/2, 5 1/2	26	75	
Boston	Concord	Concord,	"	"	3 1/2	76	2 00	
Concord	Boston	"	"	"	3 1/2	76	2 00	
Boston	Nashua	Nashua and Lowell,	"	7 1/2, 11	5	41		
Nashua	Boston	"	"	6 1/2	1 1/2, 5	41		
Boston	Worcester	Boston and Worcester,	"	7 9	2 1/2	44	1 25	
Worcester	Boston	"	"	7 10	6	44	1 25	
"	"	"	Sundays,	7				
Boston	Worcester	"	"	"	2			
Boston	New York via Norwich	"	Mon., Wed. & Fri.,	"	4			
"	" " L. Island railroad	"	Tues., Thur. & Sat.,	7				
"	" " New Haven	"	Daily,	9	2 1/2			
"	Albany	Western,	"	9	2 1/2	200	6 00	
Albany	Boston	"	"	8 1/2	1 1/2	200	6 00	
Springfield	Boston and Albany	"	"	7	3			
Boston	New York via New Haven	"	"	7	2 1/2			
Charlestown	West Acton	Fitchburg,	"	8	1 1/2			
West Acton	Charlestown	"	"	7 1/2, 10 1/2	5			
Boston	New York, via Steamboat trains	Boston and Stonington,	Tues., Thur. & Sat.,	4 1/2				
"	" " " "	Boston and Newport,	Mon., Wed. & Fri.,	4 1/2				
"	Providence	"	Daily,	7 1/2	4	41	1 50	
Providence	Boston	"	"	On arrival of the	mail.	41	1 50	
Taunton	"	"	"	8	4			
New Bedford	Boston	"	"	7 1/2	2 1/2			
Boston	Dedham	"	"	8 1/2	3 1/2, 6 1/2			
Dedham	Boston	"	"	7 10	5 1/2			
New York	Greenport	Long Island,	"	7 1/2		95	2 25	
Brooklyn	Hicksville & intermediate places	"	"	9 1/2		26	56 1/2	
"	Greenport	"	Tues., Thur. & Sat.,	9 1/2		95	2 25	
"	Hicksville, (Saturd'y to Suffolk)	"	Daily,	"	4	26	56 1/2	
Greenport	Brooklyn, (Boston train)	"	"	"	1	95	2 25	
"	" (accommodation do.)	"	Mon., Wed. & Fri.,	"		95	2 25	
"	" & intermediate places	"	Daily,	7	1 1/2	26	56 1/2	
Hicksville	"	"	"	6 1/2			5 00	
New York	Albany & Boston via N. Haven	Steamer,	"	8 3		53		
"	Middletown	New York and Erie,	"	6 1/2	3 1/2	53		
Middletown	New York	"	"	9		94	3 50	
Philadelphia	Pottsville	Reading,	"	9		94	3 50	
Pottsville	Philadelphia	"	"	9		94	3 50	
New York	Newark	N. J. railroad and trans. co.,	"	9 11 12	2 3 4 1/2 6 7 1/2	9 1/2	25	
Newark	New York	[9 A. M. and 3 P. M., connect with Morris Railroad.]	"	7 1/2, 8 1/2, 9 1/2, 11	1 1/2, 4 1/2, 5 1/2, 7 1/2, 9 1/2	9 1/2	25	
"	"	[9 A. M. and 4 1/2 P. M. trains, connect with Somerville Railroad.]	Sundays,	9	4 1/2	9 1/2	25	
New York	Newark	"	Daily,	11 1/2	9 1/2	9 1/2	25	
"	Elizabethtown	"	"	9 11	2 3 1/2 4 1/2 6	14 1/2	31 1/2	
Elizabethtown	New York	"	"	7 7 1/2, 8 1/2, 10 1/2, 12	3 1/2, 5	14 1/2	31 1/2	
New York	Rahway	N. J. railroad and trans. co.,	"	9 11	3 4 1/2 6	19 1/2	31 1/2	
Rahway	New York	"	"	6 1/2, 7 1/2, 8 1/2, 12	4 1/2, 9 1/2	19 1/2	31 1/2	
New York	New Brunswick	"	"	9	3 4 1/2	31 1/2	50	
New Brunswick	New York	"	"	6 7 1/2, 11 1/2	8 1/2	31 1/2	50	
"	"	"	Sundays,	11 1/2	8 1/2	31 1/2	50	
New York	New Brunswick	"	"	9	4 1/2	31 1/2	50	
Philadelphia	New York	Camden and Amboy,	Daily,	7		91	3 00	
Philadelphia	Philadelphia	"	"	5 1/2		91	3 00	
Philadelphia	Bristol	Philadelphia and Trenton,	"	9		30	75	
Bristol	Philadelphia	"	"	"	4	30	75	
Philadelphia	Baltimore	Philad. Wil. and Baltimore,	"	8	4	93		
Baltimore	Philadelphia	"	"	9	8	93		
"	Washington	Baltimore and Washington,	"	9	5 11 1/2	41	2 50	
Washington	Baltimore	"	"	6	5 1/2	41	2 50	
Baltimore	Cumberland and inter. places	Baltimore and Ohio,	"	7 1/2				
"	Frederick	"	"	"	4			
Cumberland	Baltimore	"	"	8				
Hancock	"	"	"	10 1/2				
Martinsburg	"	"	"	11 1/2				
Harper's Ferry	"	"	"	"	12 1/2			
Frederick	"	"	"	"	2			
"	"	"	Sundays,	8				
Ellicott's Mills	"	"	Daily,	7 1/2, 12	4 1/2			
Richmond	Petersburg	Richmond and Petersburg,	"	10 1/2	1 1/2			
Petersburg	Richmond	"	"	5 1/2				
Albany	Schenectady	Mohawk and Hudson,	"	8	5 1/2			
Schenectady	Albany	"	"	9	3 1/2			
Albany	Saratoga	"	"	7 1/2	2			
Saratoga	Albany	"	"	7	12 1/2, 5			
Troy	Saratoga	Troy and Saratoga,	"	"	3 1/2			
Saratoga	Troy	"	"	7 1/2				
Auburn	Rochester	Auburn and Rochester,	"	8 1/2				
Rochester	Auburn	"	"	8	3			
"	Buffalo	"	"	"	3			
Buffalo	Rochester	Rochester and Buffalo,	"	"				
"	Falls	Buffalo and Falls,	"	9				
Falls	Buffalo	"	"	"	1 1/2			
Buffalo	Albany	Albany and Buffalo	"	8 1/2				

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